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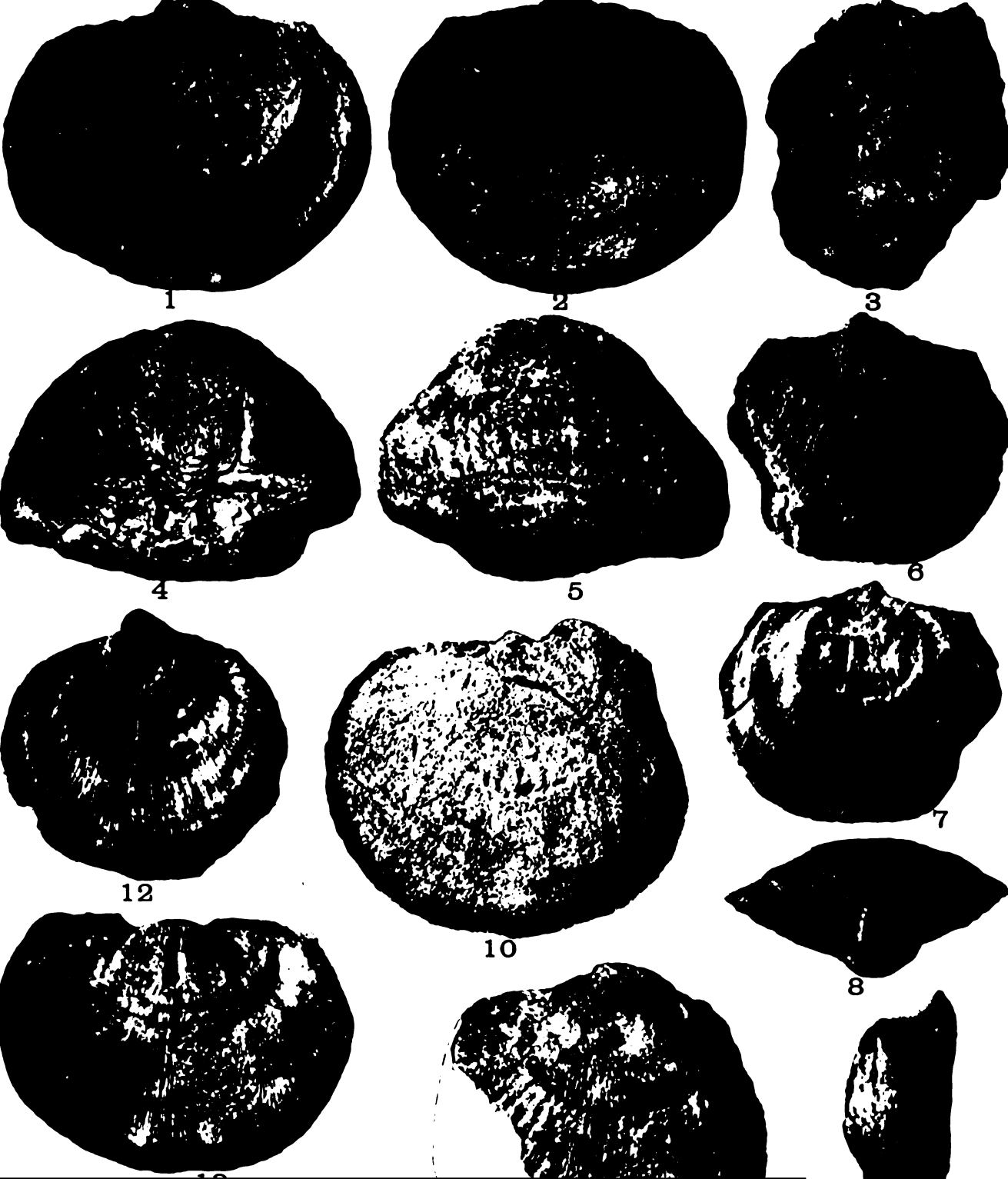
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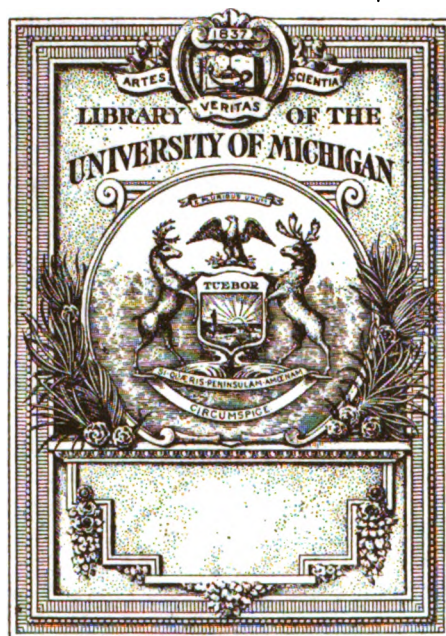
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# *Monograph*

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STATE OF ILLINOIS  
STATE GEOLOGICAL SURVEY  
FRANK W. DEWOLF, DIRECTOR

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MONOGRAPH 1

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THE  
MISSISSIPPIAN BRACHIOPODA  
OF THE  
MISSISSIPPI VALLEY BASIN

PLATES  
BY  
STUART WELLER



ILLINOIS  
STATE GEOLOGICAL SURVEY  
URBANA  
1914

CAMERON, AMBERG & CO. PRINTERS, CHICAGO.



# Plates and Explanations

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(All figures are natural size unless otherwise indicated.)

The collection in which each specimen used for illustration may be found, has been indicated in the explanation of the plates. The abbreviations used are as follows:

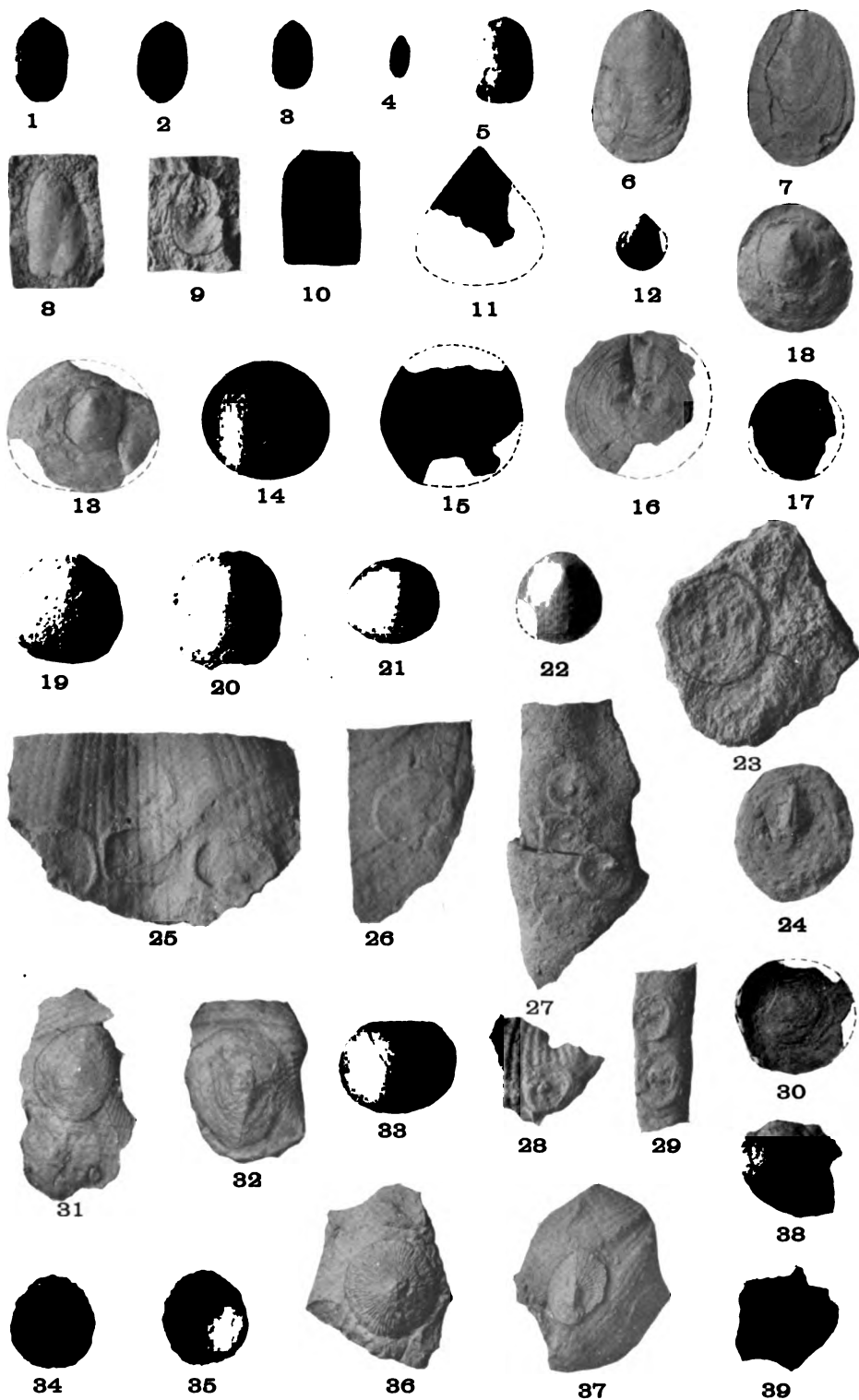
- W. M.—Collection of Walker Museum, University of Chicago.
- U. M.—Collection of the University of Michigan.
- A. M. N. H.—Collection of the American Museum of Natural History, New York.
- U. S. N. M.—Collection of the United States National Museum, Washington, D. C.
- I. S. M.—Collection of the Illinois State Museum, Springfield, Ill.
- R. R. R.—Collection of R. R. Rowley, Louisiana, Mo.
- D. K. G.—Collection of D. K. Greger, Columbia, Mo.
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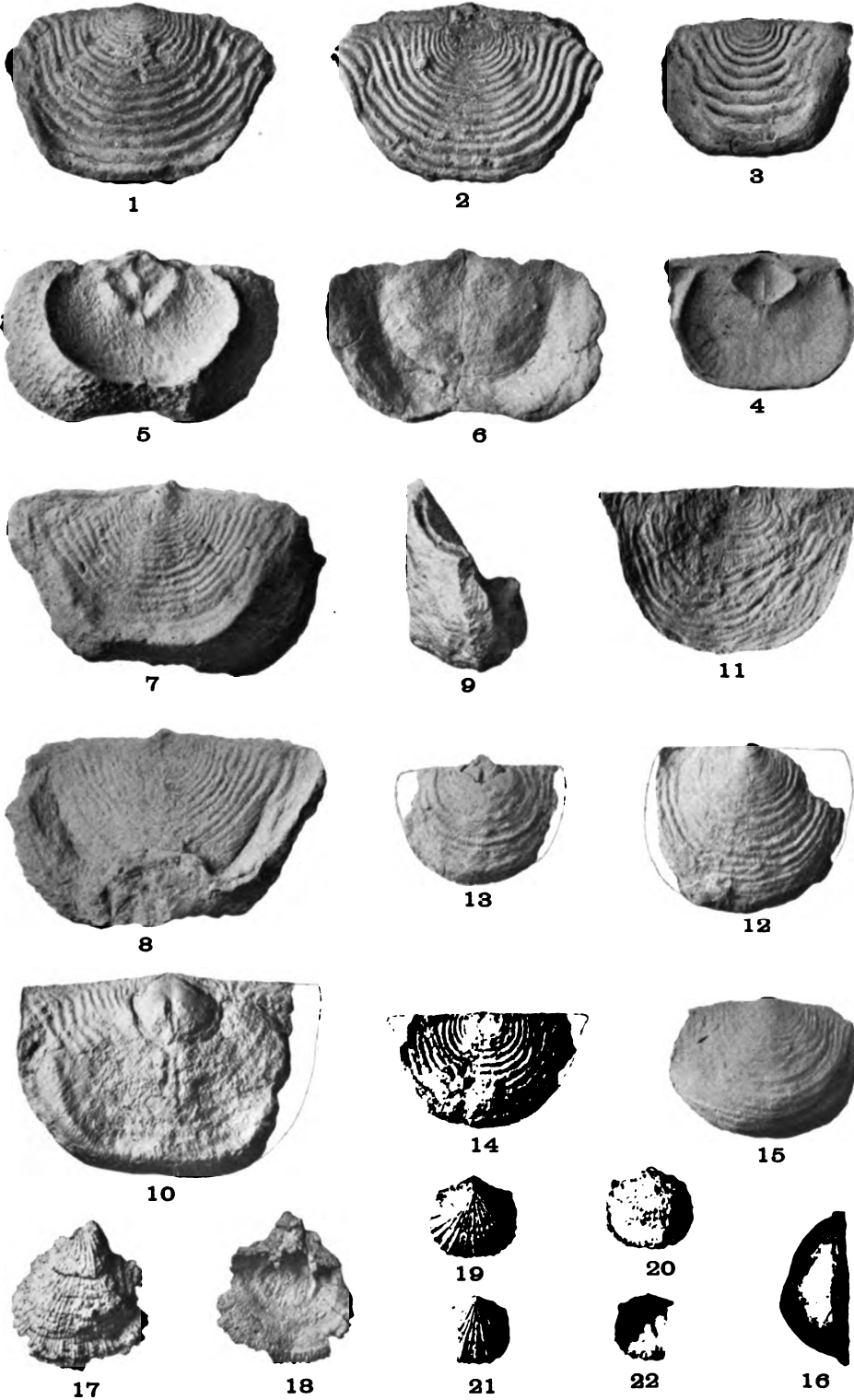
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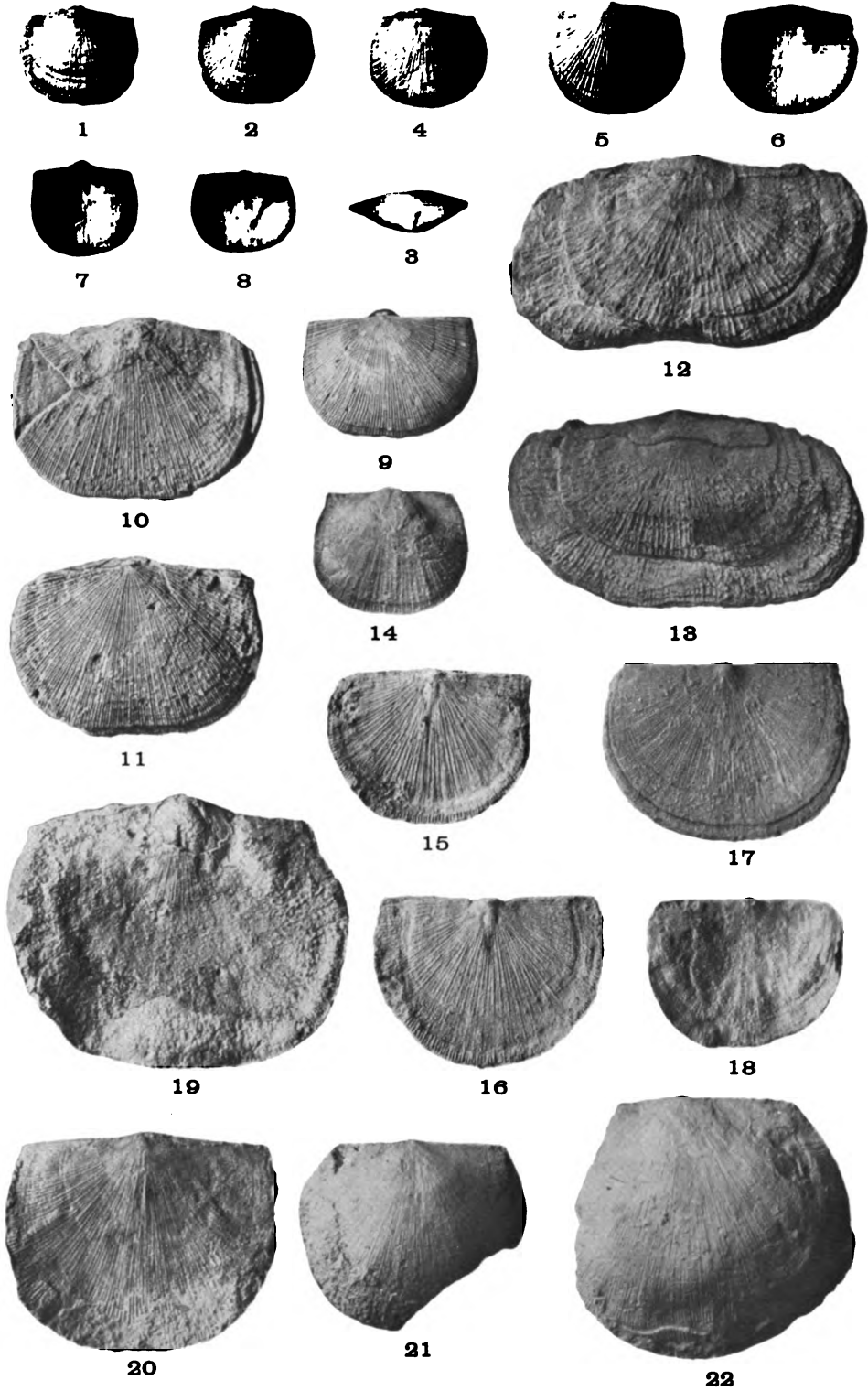
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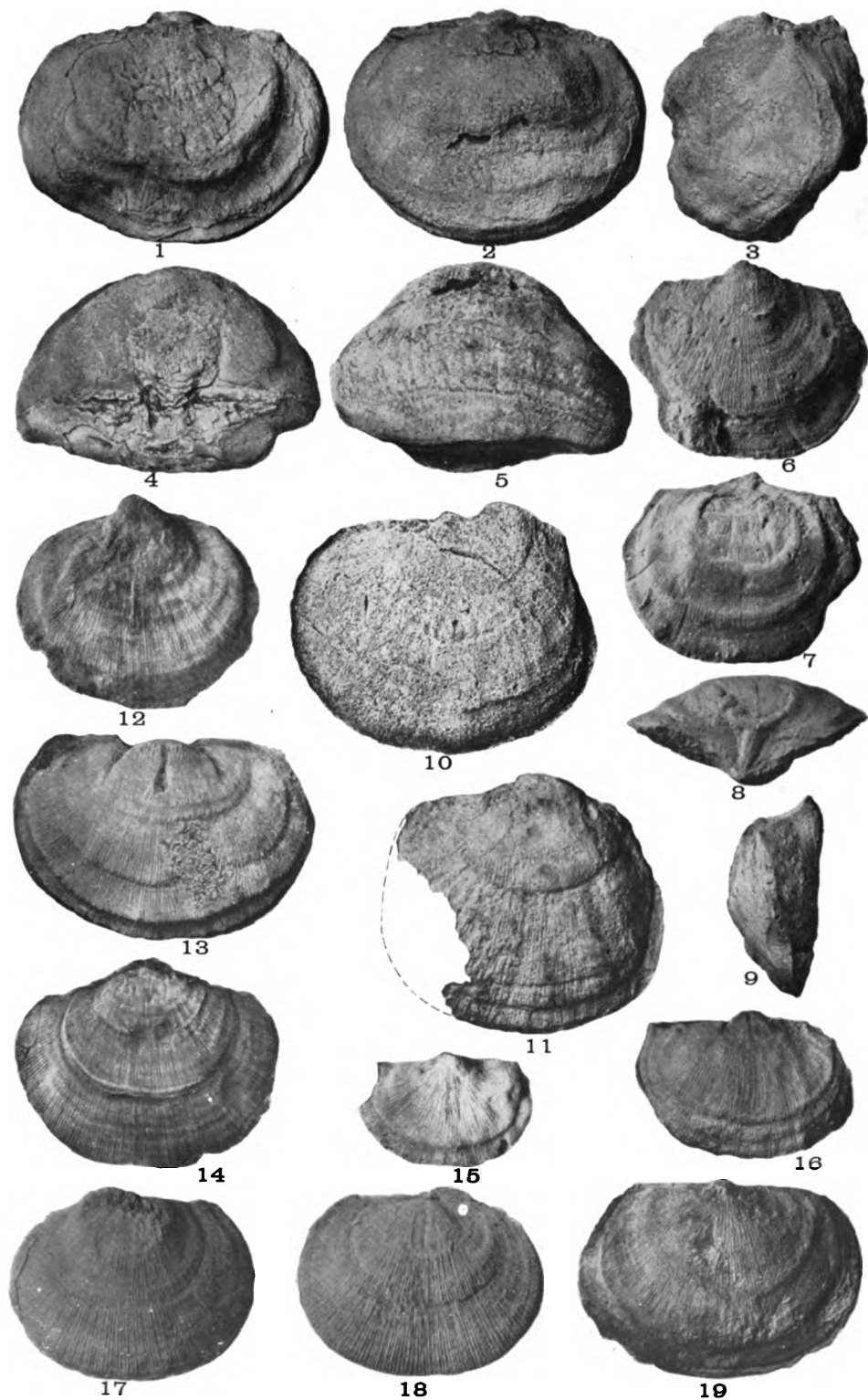
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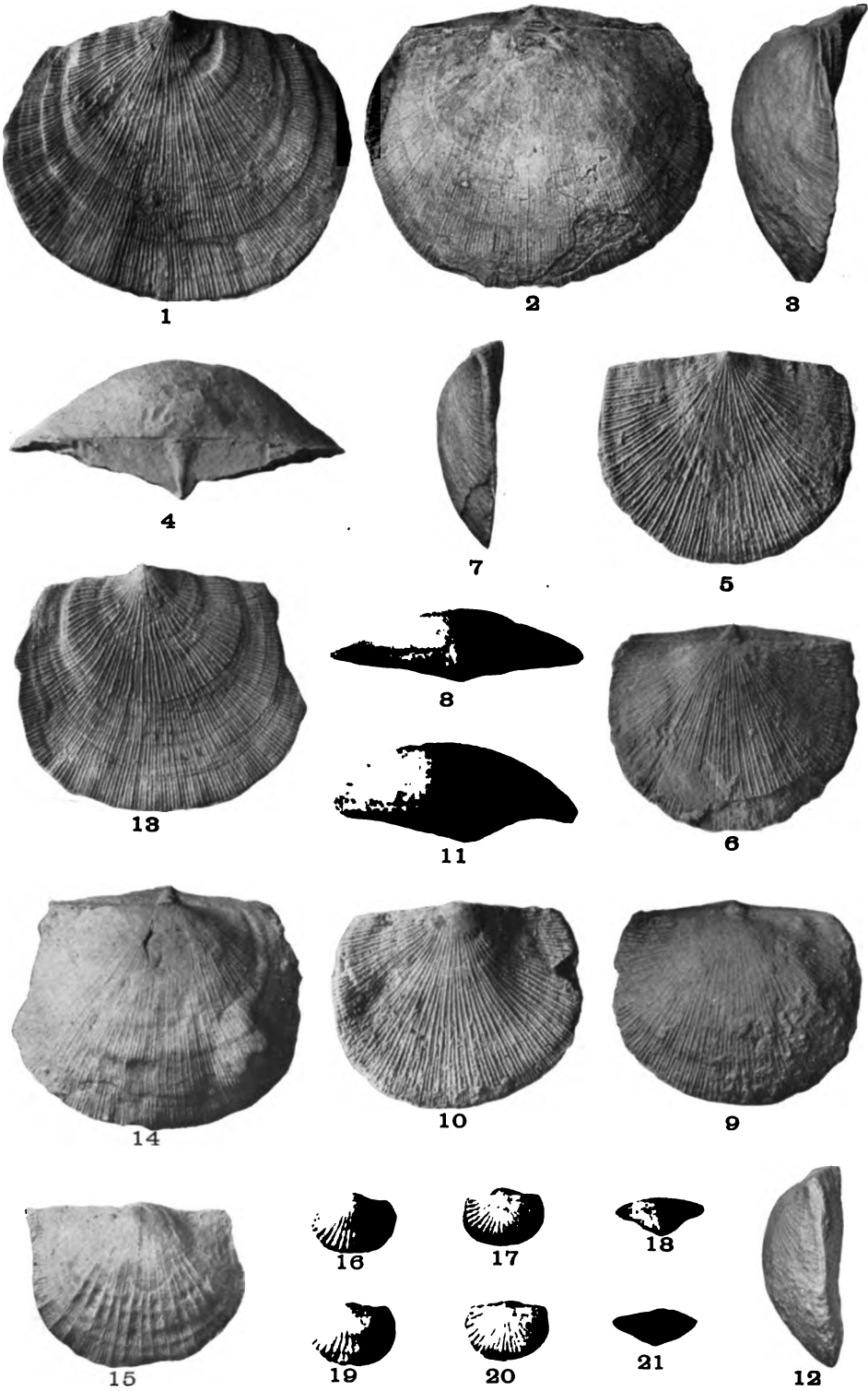
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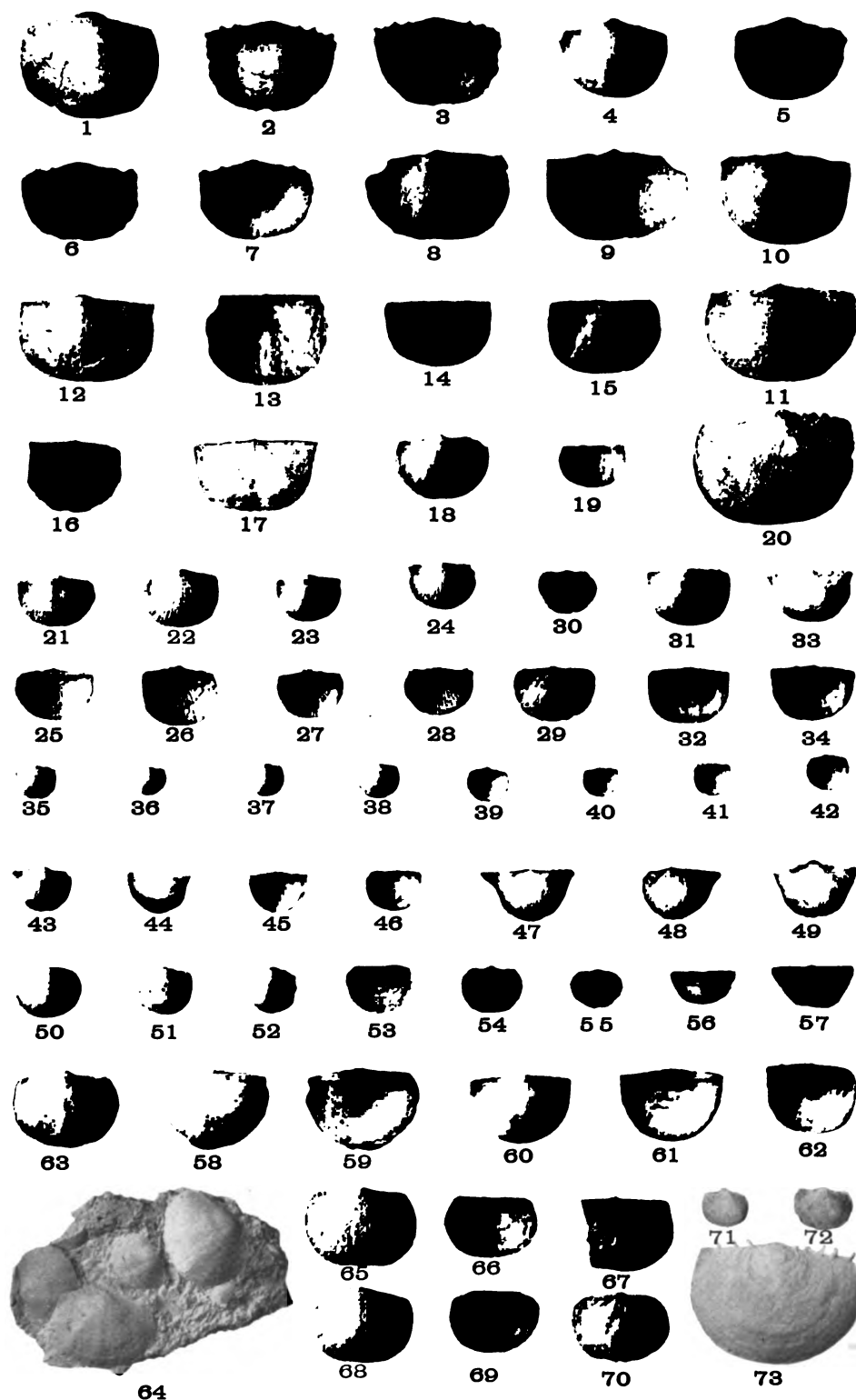
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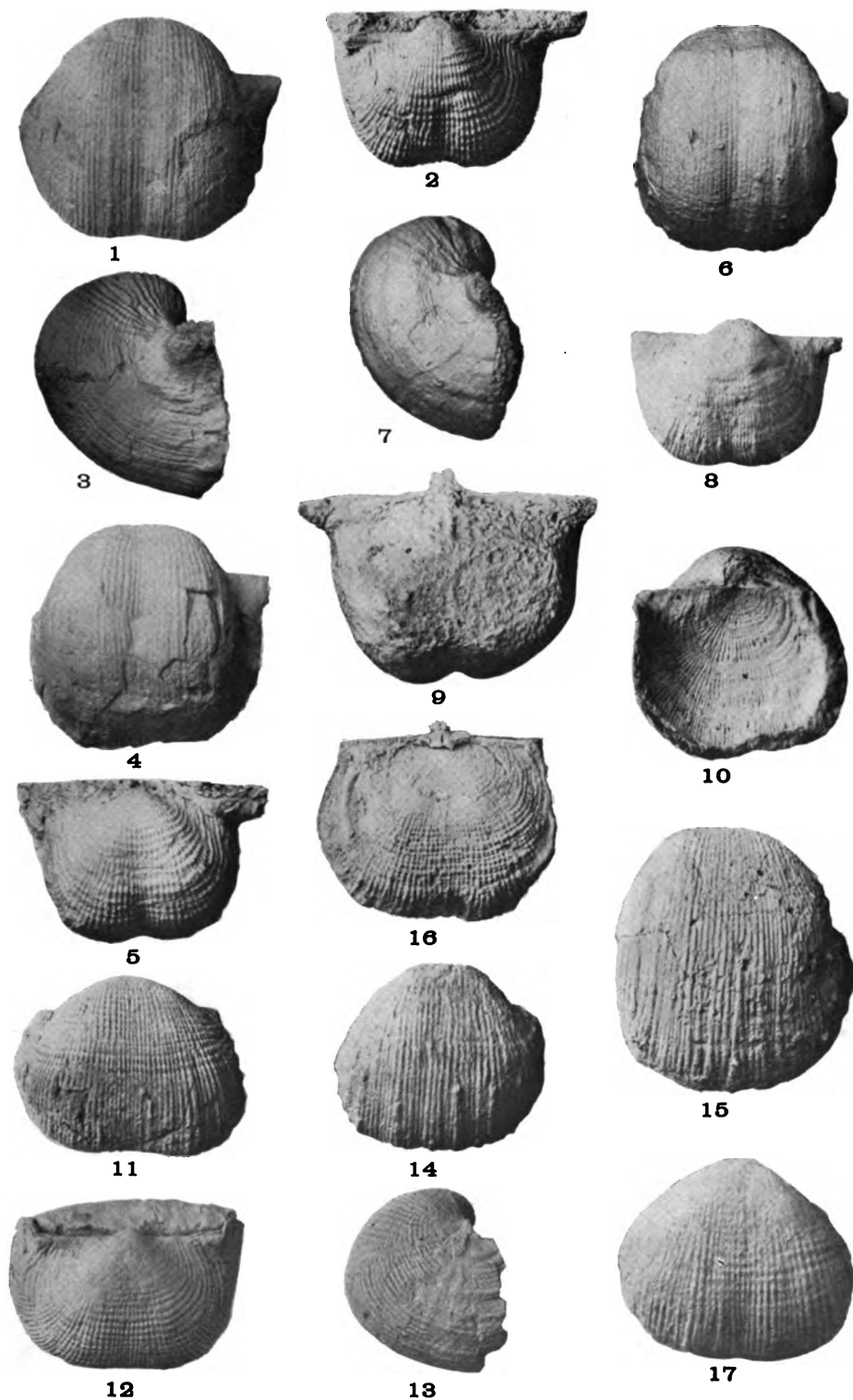
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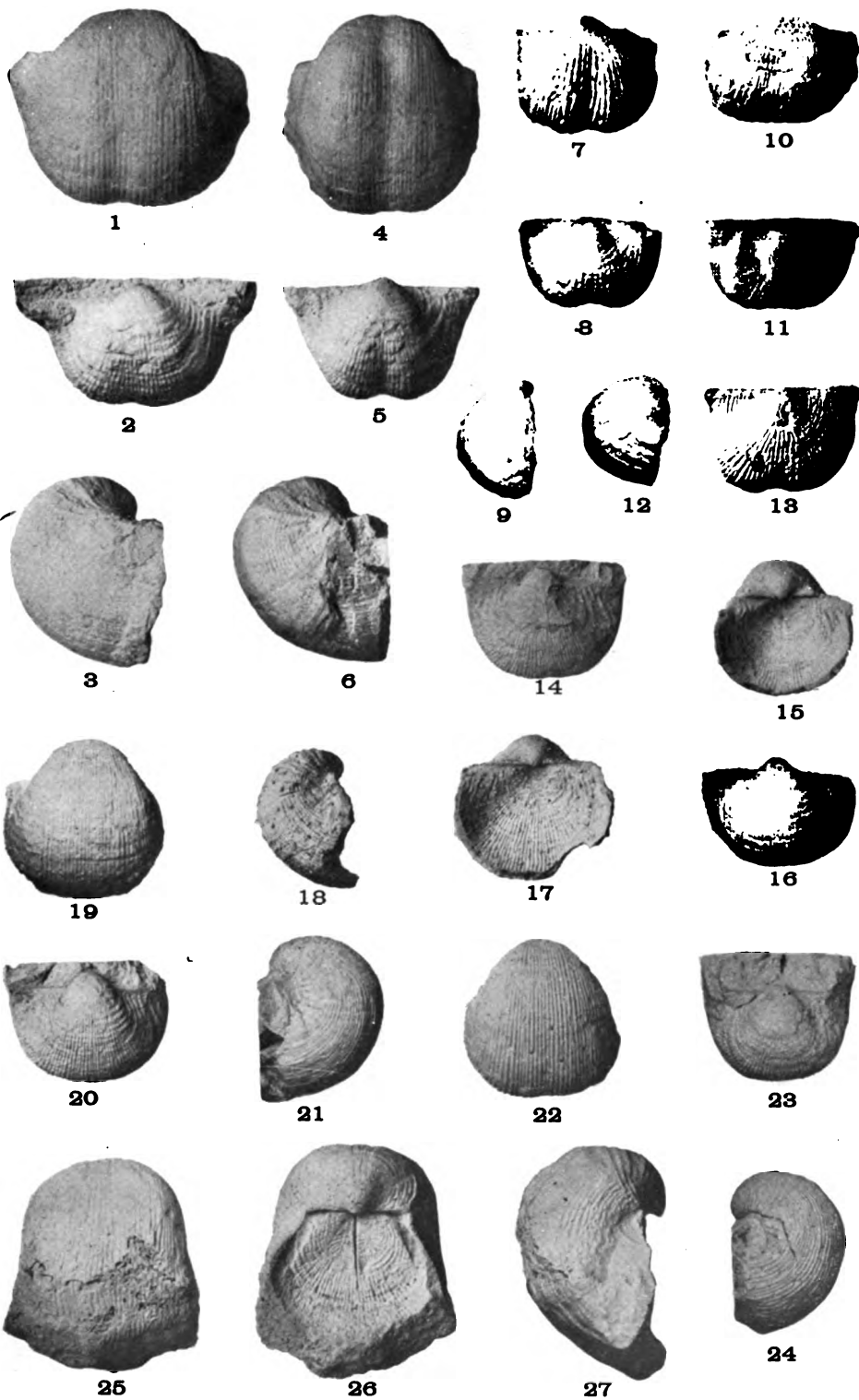
EXPLANATION OF PLATE IX.

- Figs. 1-10. *PRODUCTUS BURLINGTONENSIS* Hall.....p. 104
- 1-3. Pedicle, posterior and lateral views of a pedicle valve.  
4-5. Pedicle and posterior views of another pedicle valve.  
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- Figs. 11-17. *PRODUCTUS FERNGLENENSIS* Weller.....p. 105
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so that an impression of the exterior of the valve is exposed.  
Cotypes. (W. M., No. 4669.)  
*Fern Glen formation, near Kimmswick, Missouri.*
17. View of a pedicle valve. (W. M., No. 8556.)  
*Pierson limestone, near Springfield, Missouri.*



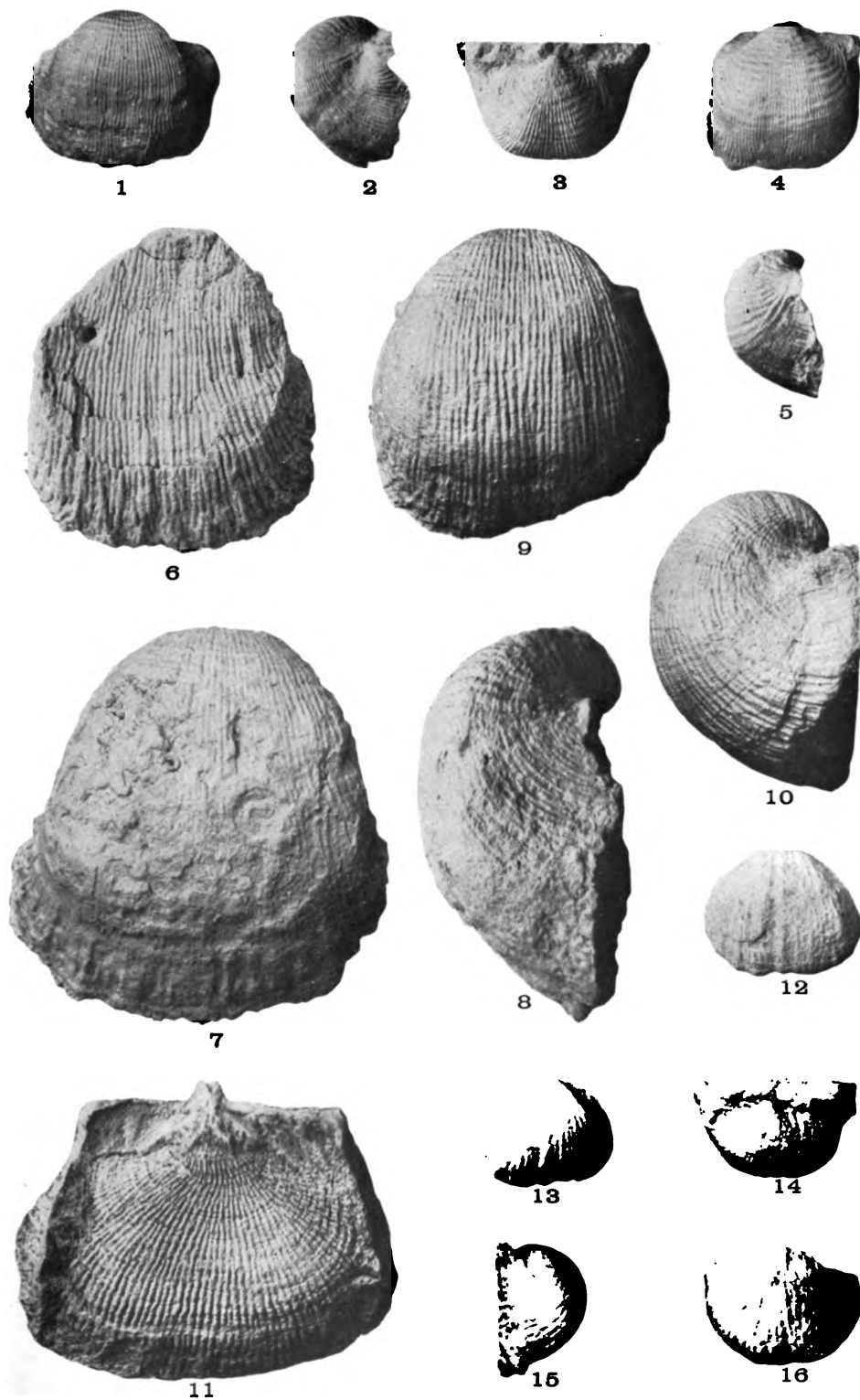
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- Figs. 1-6. *PRODUCTUS INFLATUS* McChesney.....p. 111  
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1. Brachial view of a crushed specimen, the holotype. (A. M. N. H., 5589-1.)  
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- 8-11. Pedicle, lateral, anterior and posterior views of a nearly perfect specimen. 12. View of the same specimen exhibiting the impression of the external surface of the brachial valve after the removal of the pedicle valve along the fracture shown in Fig. 9. (W. M., No. 14370.) 13-15. Pedicle, brachial and lateral views of a small but very perfect specimen.
  - 16-17. Pedicle and lateral views of a pedicle valve. (W. M., No. 14298.)  
*Chester Group, Chester, Illinois.*



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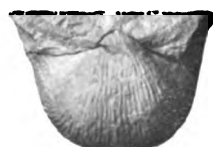
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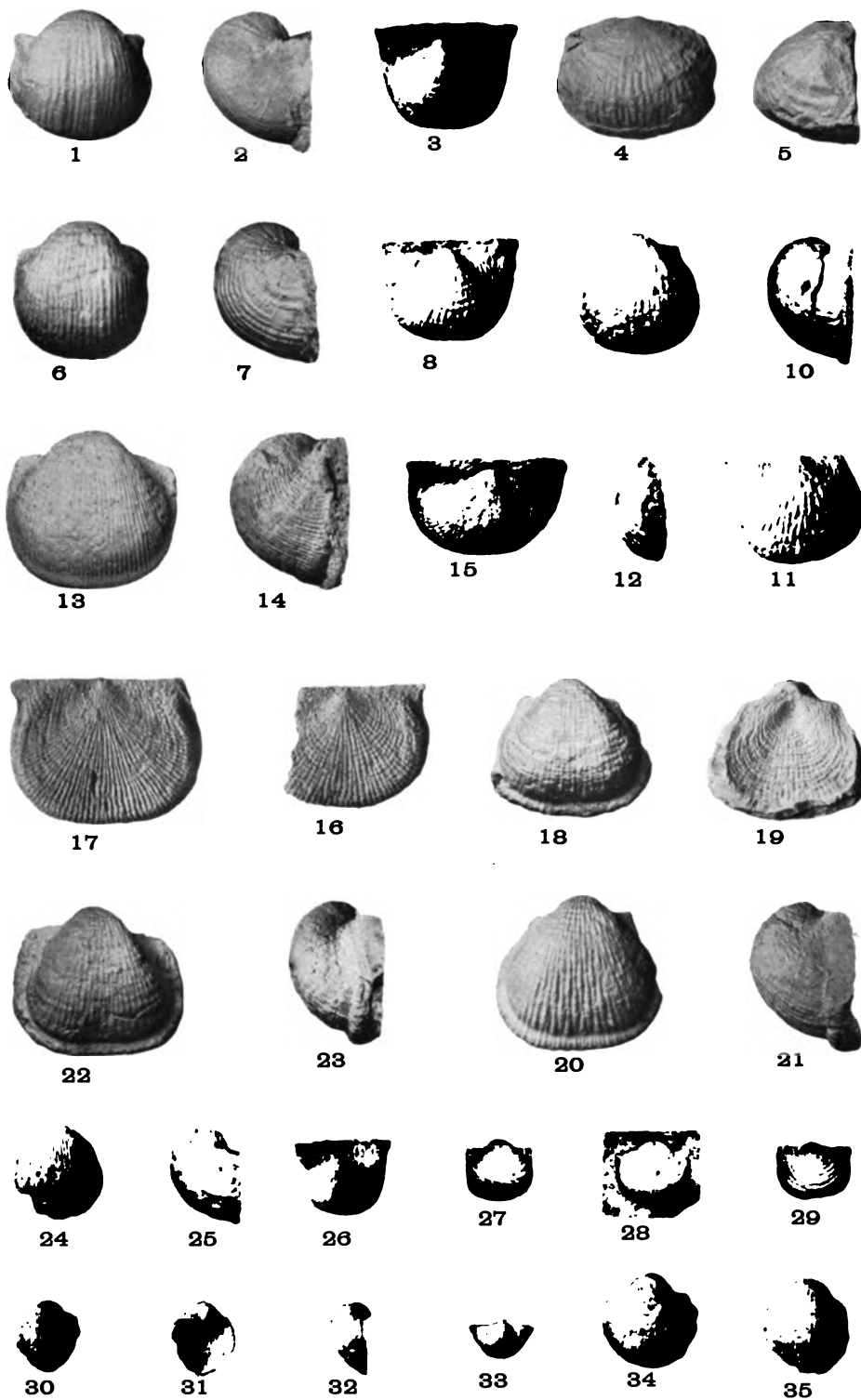


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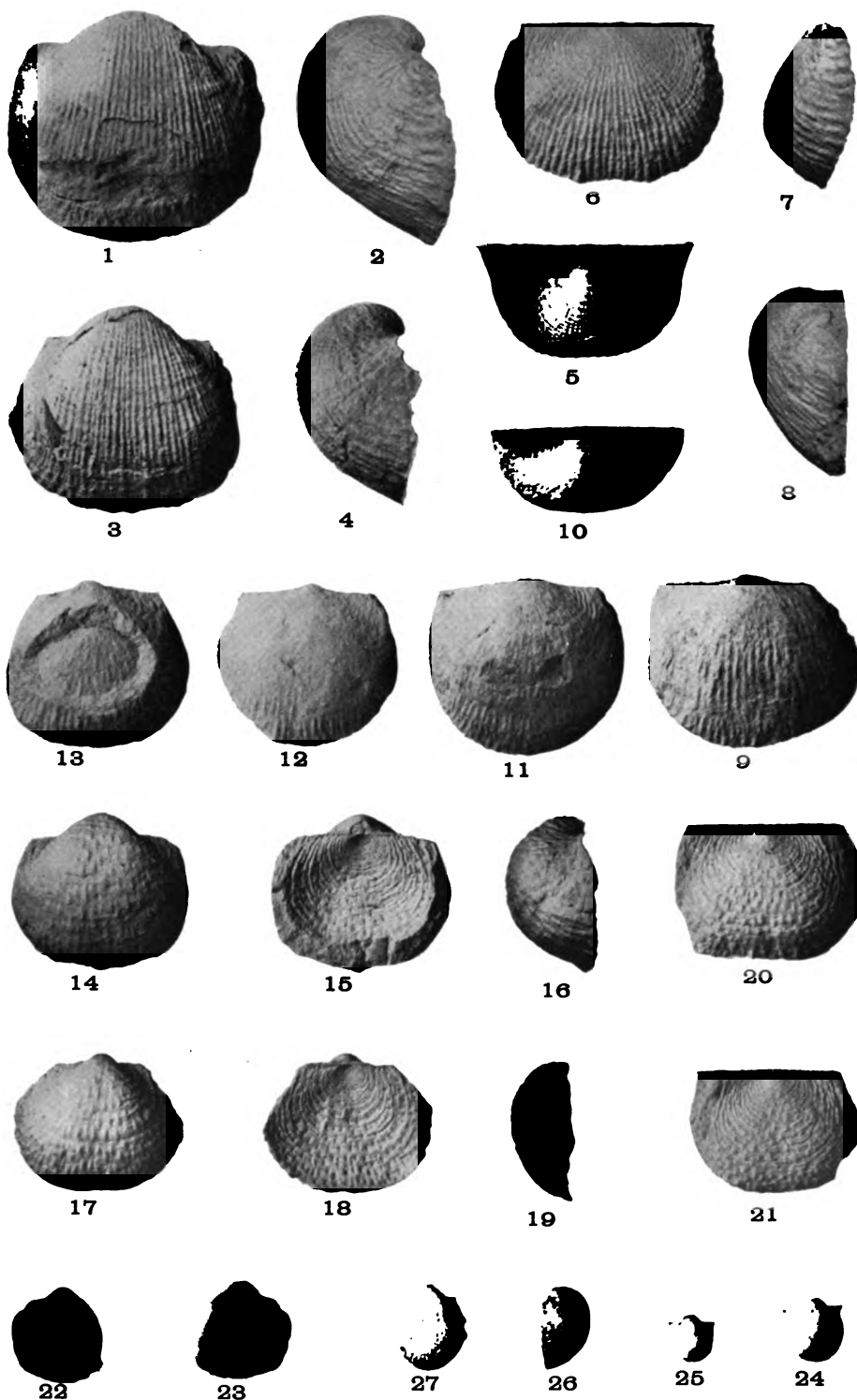
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- Figs. 30-35. *PRODUCTUS SAMPSONI* Weller.....p. 129  
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- Figs. 1-7. *PRODUCTUS SEDALIENSIS* n. sp.....p. 108  
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 6-7. Pedicle and lateral views of a natural mould of the exterior of a brachial valve. (W. M., No. 9691.)  
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*Chouteau limestone, Pettis County, Missouri.*
- Figs. 22-23. *PRODUCTUS* sp.  
 Pedicle and brachial views of a nearly complete shell. (W. M., No. 9825.)  
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 Pedicle and lateral views of a nearly complete pedicle valve. (D. K. G., No. 2101.)  
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EXPLANATION OF PLATE XV.

Figs. 1-8. *PRODUCTUS MAGNUS* Meek & Worthen.....p. 117

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*Keokuk, Monroe County, Illinois.*

6-8. Pedicle, lateral and posterior views of a smaller example, having the characters of the shell described as *P. fentonensis* by Shumard. (W. M., No. 14308.)

*Keokuk, Fenton, St. Louis County, Missouri.*



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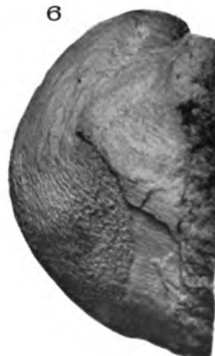
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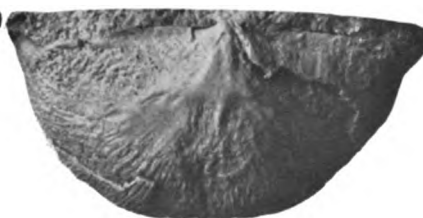
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- Figs. 1-15. *PRODUCTUS OVATUS* Hall.....p. 132
- 1-3. Pedicle, lateral and posterior views of a nearly complete pedicle valve. (*Productus pileiformis*.) (W. M., No. 14323.)  
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- 4-5. Pedicle and lateral views of a pedicle valve. 6-7. Direct and profile views of the external impression of a brachial valve. (*Productus pileiformis*.) (W. M., No. 14314.)  
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*Chester group, Chester, Illinois.*
- 20-22. Posterior, lateral and pedicle views of another perfect specimen. (W. M., No. 10923.)  
*Pella beds, Pella, Iowa.*



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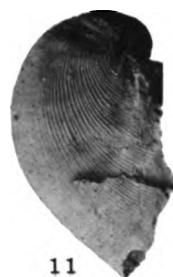
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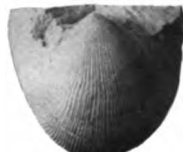
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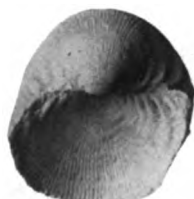
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EXPLANATION OF PLATE XVII.

Figs. 1-7. ECHINOCONCHUS ALTERNATUS (Norwood and Pratten).....p. 138

1-4. Pedicle, brachial, lateral and posterior views of a nearly complete shell without the surface spines. (W. M., No. 14318.)

*Keokuk limestone, Warsaw, Illinois.*

5. View of the interior of a nearly complete brachial valve. (W. M., No. 14316.)

*Crawfordsville shale, Crawfordsville, Indiana.*

6-7. Lateral and pedicle views of a pedicle valve from which the spines are missing. (W. M., No. 14319.)

*Keokuk limestone, Warsaw, Illinois.*

Figs. 8-9. ECHINOCONCHUS sp.

Lateral and pedicle views of a large and nearly complete pedicle valve lacking the spines. (W. M., No. 12988.)

*St. Louis limestone, Carondelet, Missouri.*

Figs. 10-15. ECHINOCONCHUS BISERIATUS (Hall).....p. 141

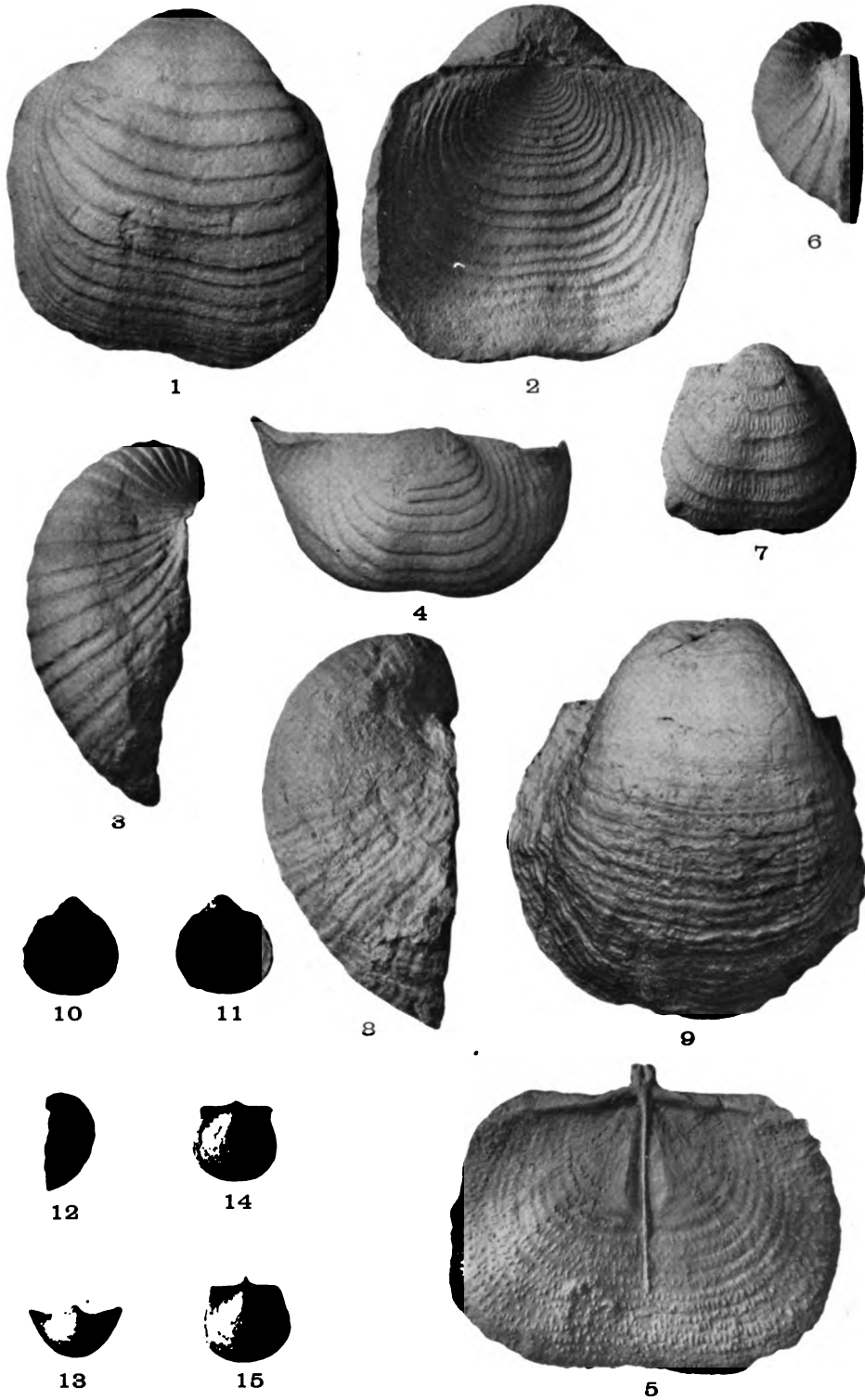
10-13. Pedicle, brachial, lateral and posterior views of a nearly perfect specimen, lacking the spines. (W. M., No. 14315.)

*Salem limestone, Spargen Hill, Indiana.*

14. The impression of the external surface of a brachial valve.

15. View of the interior of a brachial valve. (W. M., No. 14766.)

*Salem limestone, Hull's Hollow, near Alton, Illinois.*



## EXPLANATION OF PLATE XVIII.

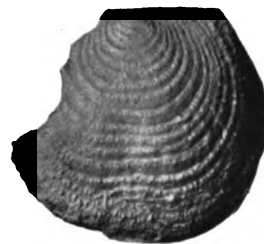
- Figs. 1-6. *ECHINOCONCHUS GENEVIEVENSIS* n. sp.....p. 139  
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*Salem limestone (?), Jersey County, Illinois.*
- Figs. 13-15. *ECHINOCONCHUS MORBILLIANUS* (Winchell).....p. 142  
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- Fig. 16. *PRODUCTUS* sp.  
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*Chonopectus limestone, Burlington, Iowa.*
- Figs. 17-18. *STROPHALOSIA KEOKUK* Beecher.....p. 145  
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 18. The same (x 4). (W. M., No. 13008.)  
*Keokuk limestone, Crawfordsville, Indiana.*
- Figs. 19-23. *STROPHALOSIA SCINTILLA* Beecher.....p. 144  
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*Louisiana limestone, Louisiana, Missouri.*



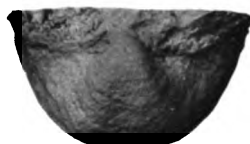
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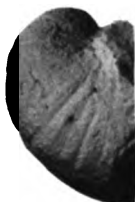
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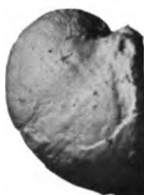
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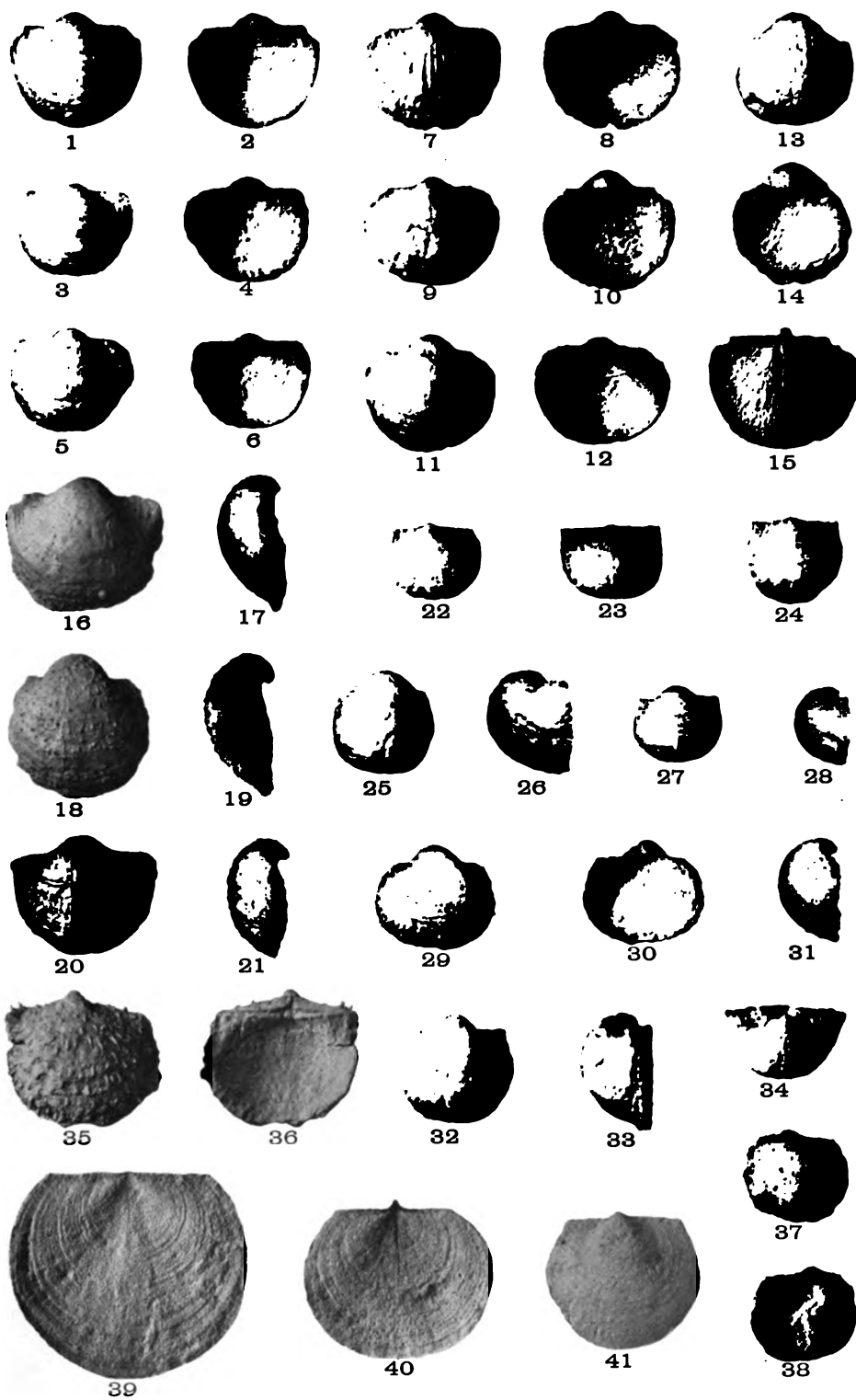
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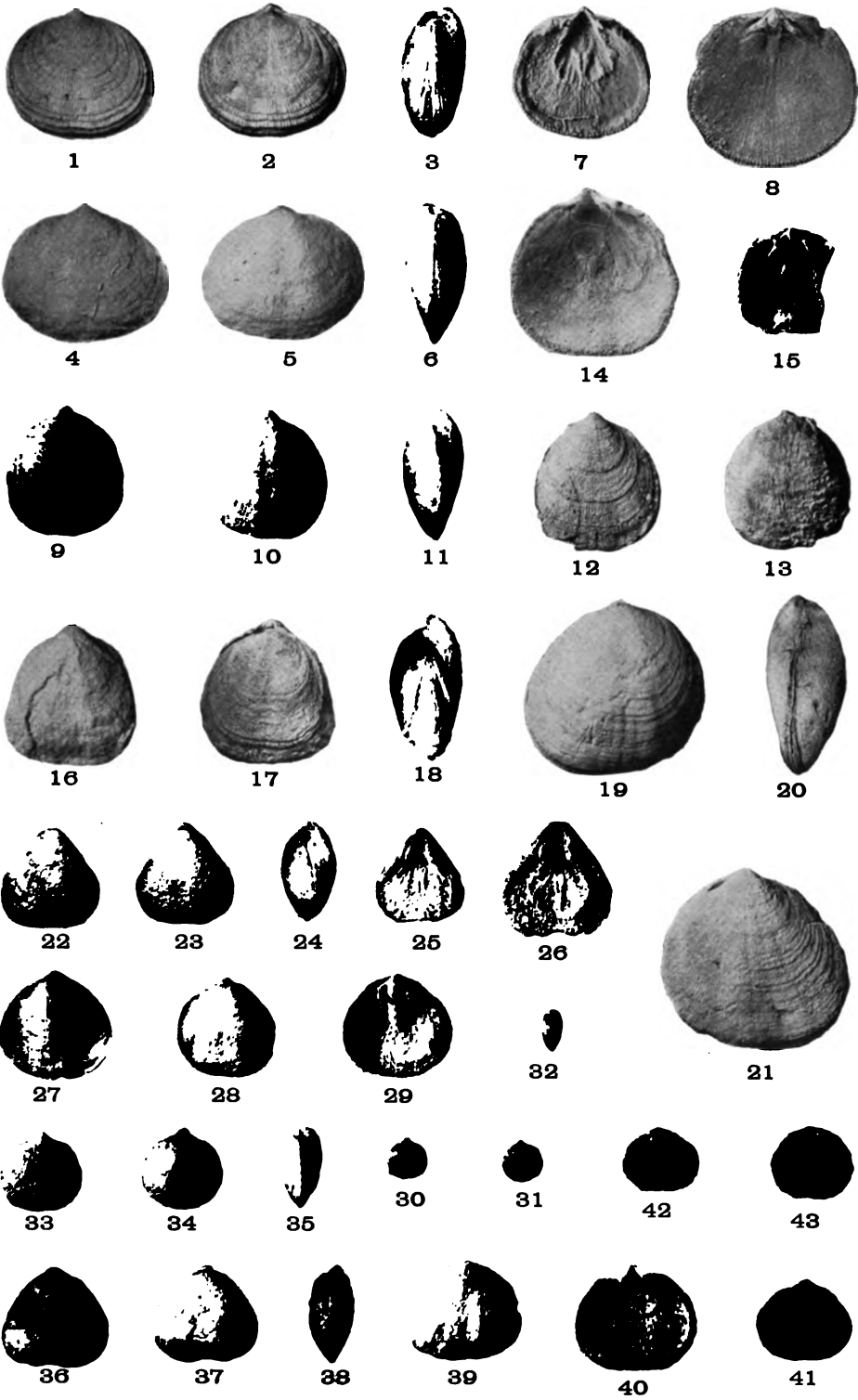
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- Figs. 1-21. *PRODUCTELLA PYXIDATA* Hall.....p. 100  
 1-14. Pedicle and brachial views of seven nearly perfect shells.  
 15. View of the interior of a brachial valve. 16-21. Pedicle and lateral views of three very perfect specimens. (W. M., No. 6696.)  
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 23-24. Views of the natural moulds of two brachial valves, entirely similar to the holotype. 25-26. Pedicle and lateral views of a nearly complete pedicle valve. 27-28. Similar views of another example. (W. M., No. 9821.)  
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*Kinderhook, Burlington, Iowa.*  
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 Pedicle and brachial views of a nearly complete specimen, the holotype. (W. M., No. 11897.)  
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- Figs. 37-38. *STROPHALOSIA BEECHERI* Rowley.....p. 146  
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 39. View of the exterior of a brachial valve. 40. Internal view of a brachial valve. 41. View of a pedicle valve. Cotypes. (U. M., No. 1340.)  
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# EXPLANATION OF PLATE XX.

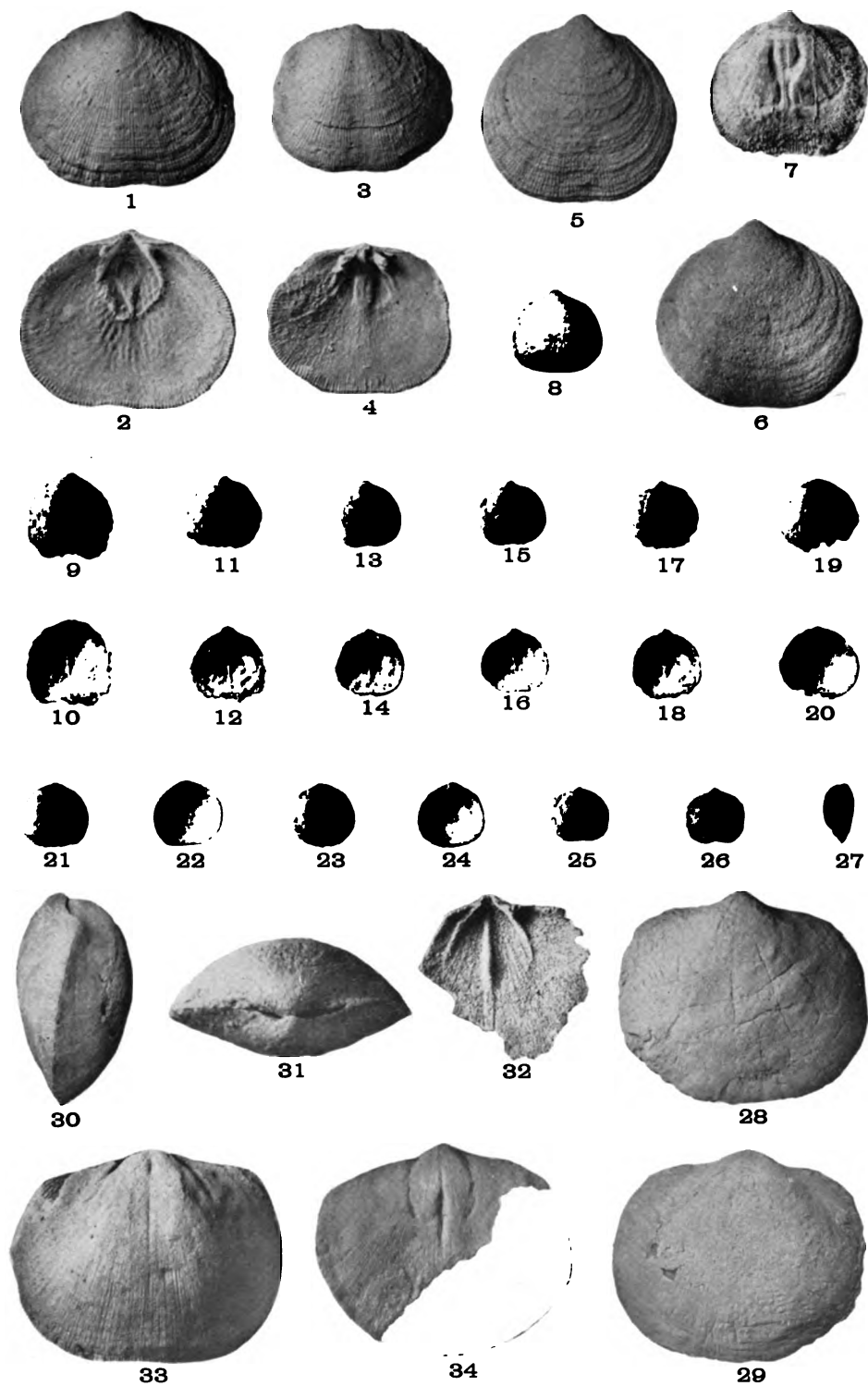
- Figs. 1-8. RHIPIDOMELLA MISSOURIENSIS (Swallow).....p. 148  
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 4-6. Similar views of another specimen. 7. Internal view of a  
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 Internal view of a brachial valve. (W. M., No. 14222.)  
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*Pierson limestone, near Springfield, Missouri.*  
 30-32. Pedicle, brachial and lateral views of a very perfect speci-  
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 ternal view of another pedicle valve. 42-43. Internal views of  
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*Fern Glen formation, near Kimmswick, Missouri.*





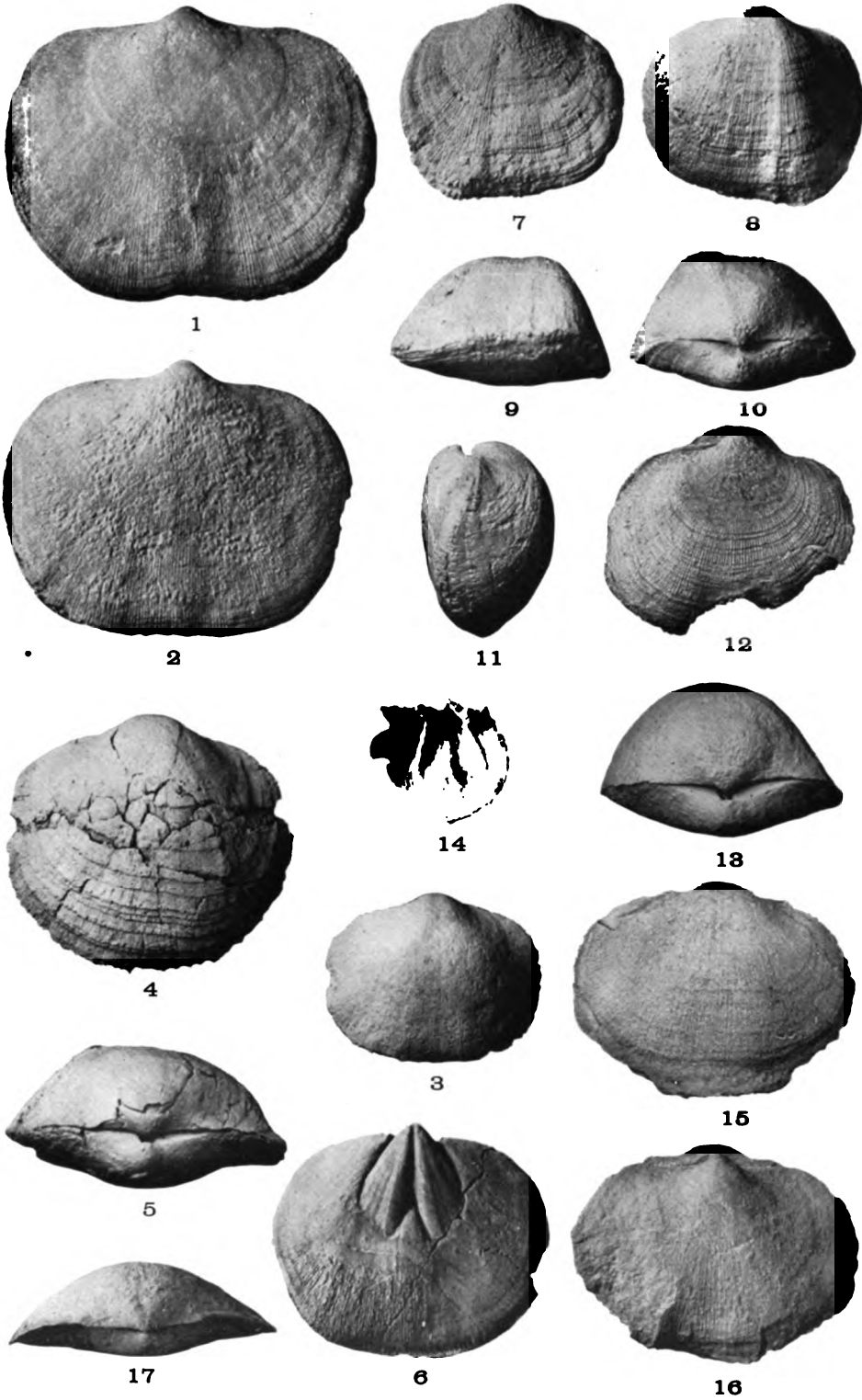
# EXPLANATION OF PLATE XXI.

- Figs. 1-4. RHIPIDOMELLA OWENI Hall & Clarke.....p. 151  
 1-2. External and internal views of a nearly perfect pedicle valve.  
 (W. M., No. 4675.) 3-4. External and internal views of a  
 nearly complete brachial valve. (W. M., No. 7857.)  
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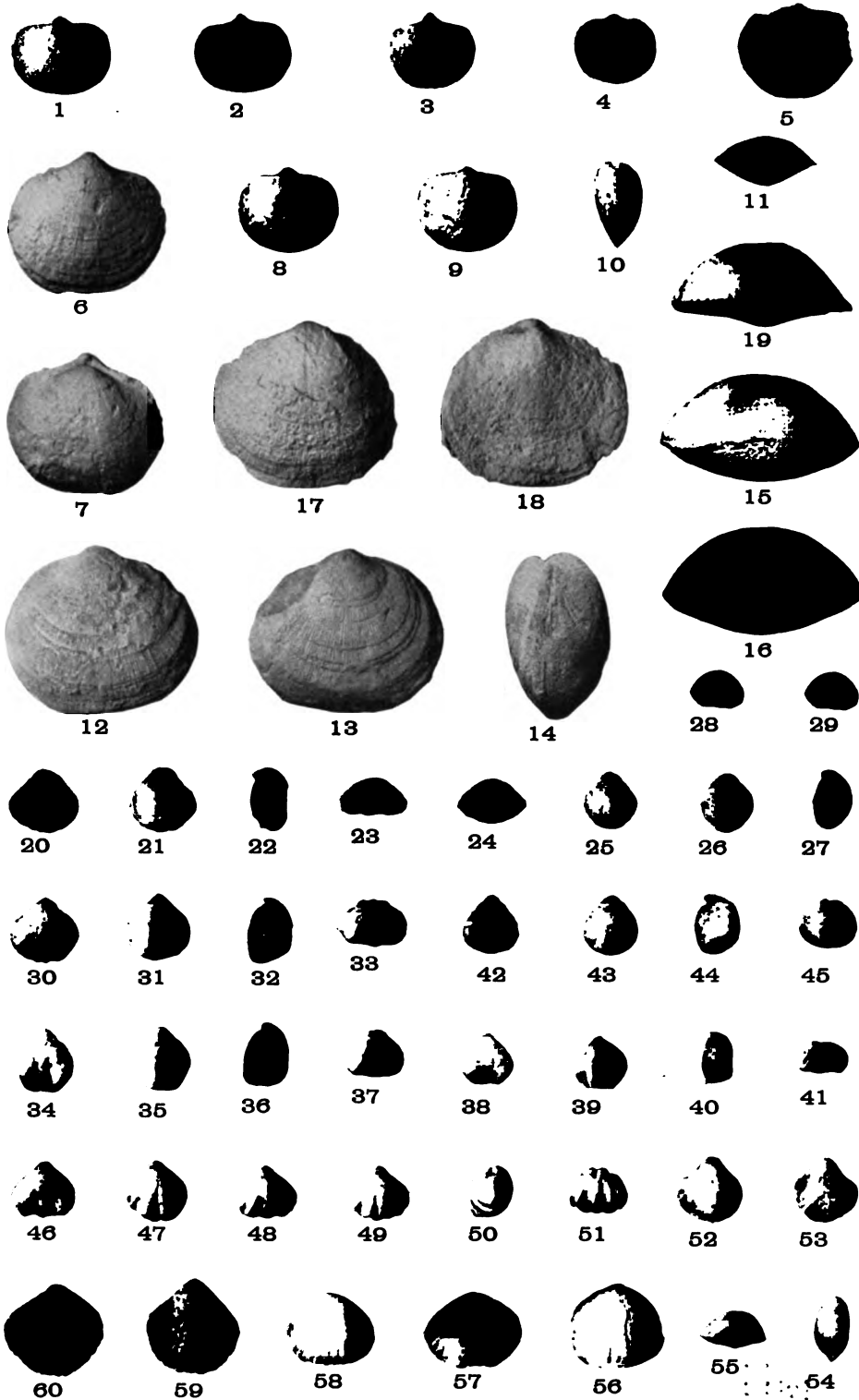
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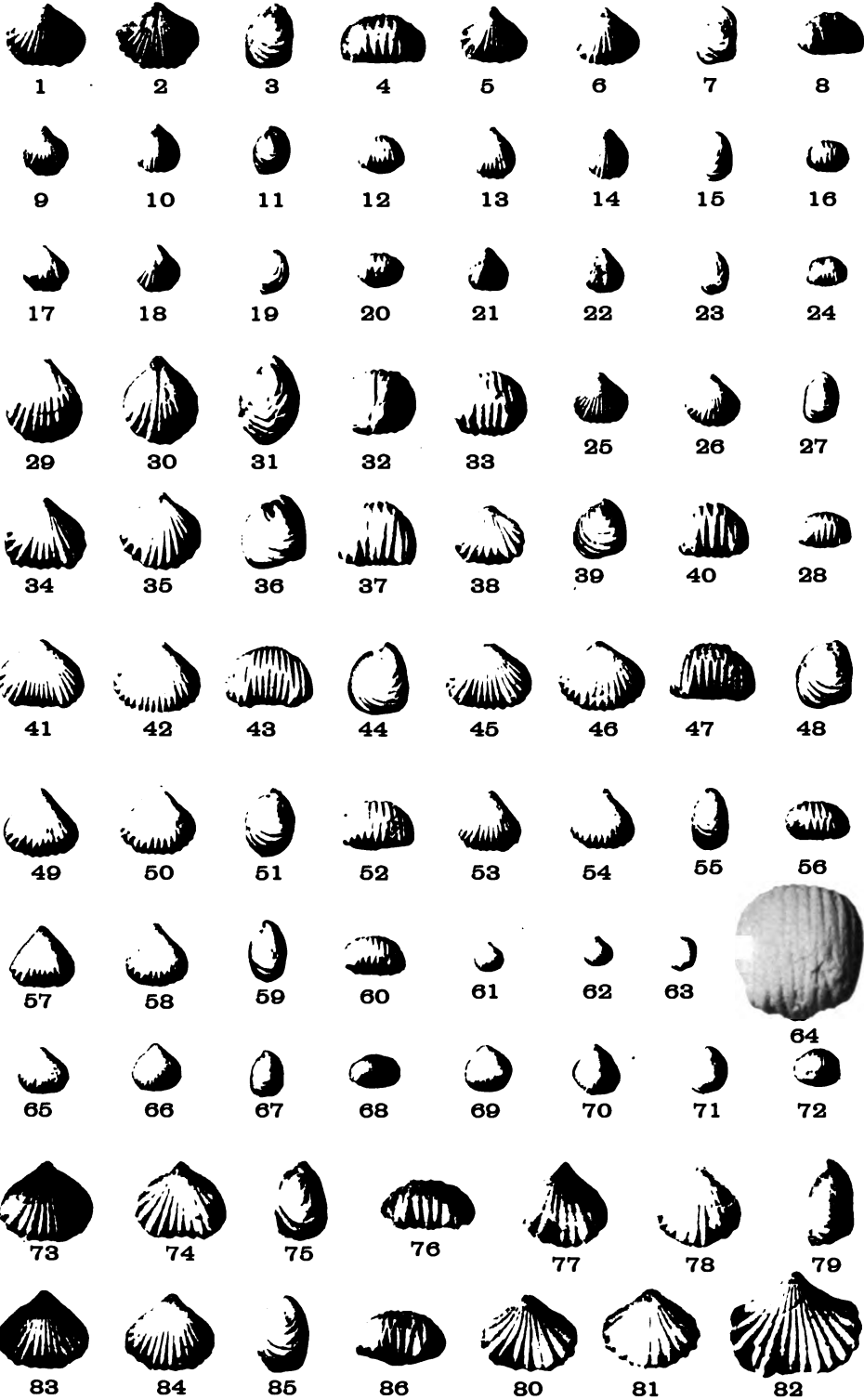
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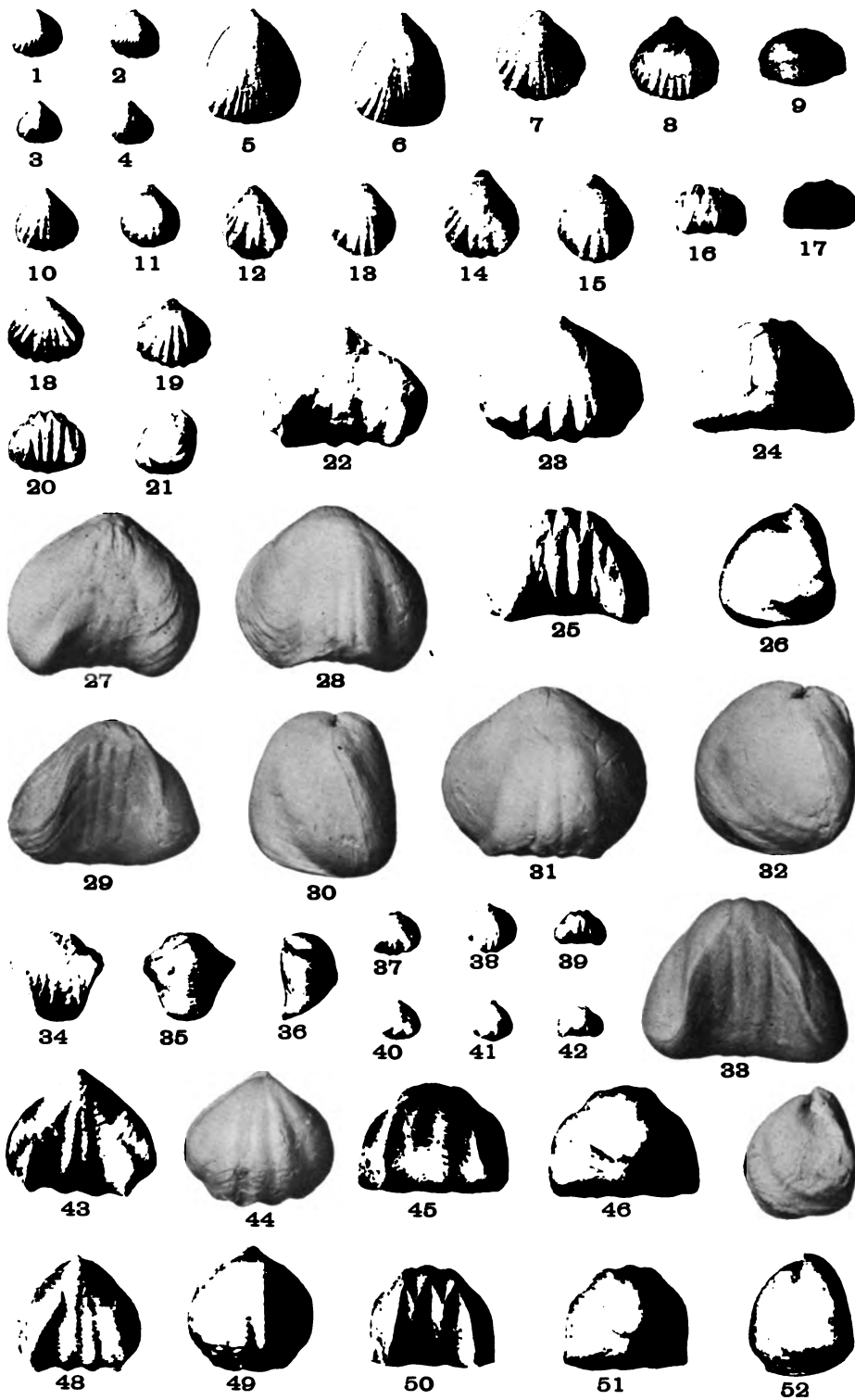


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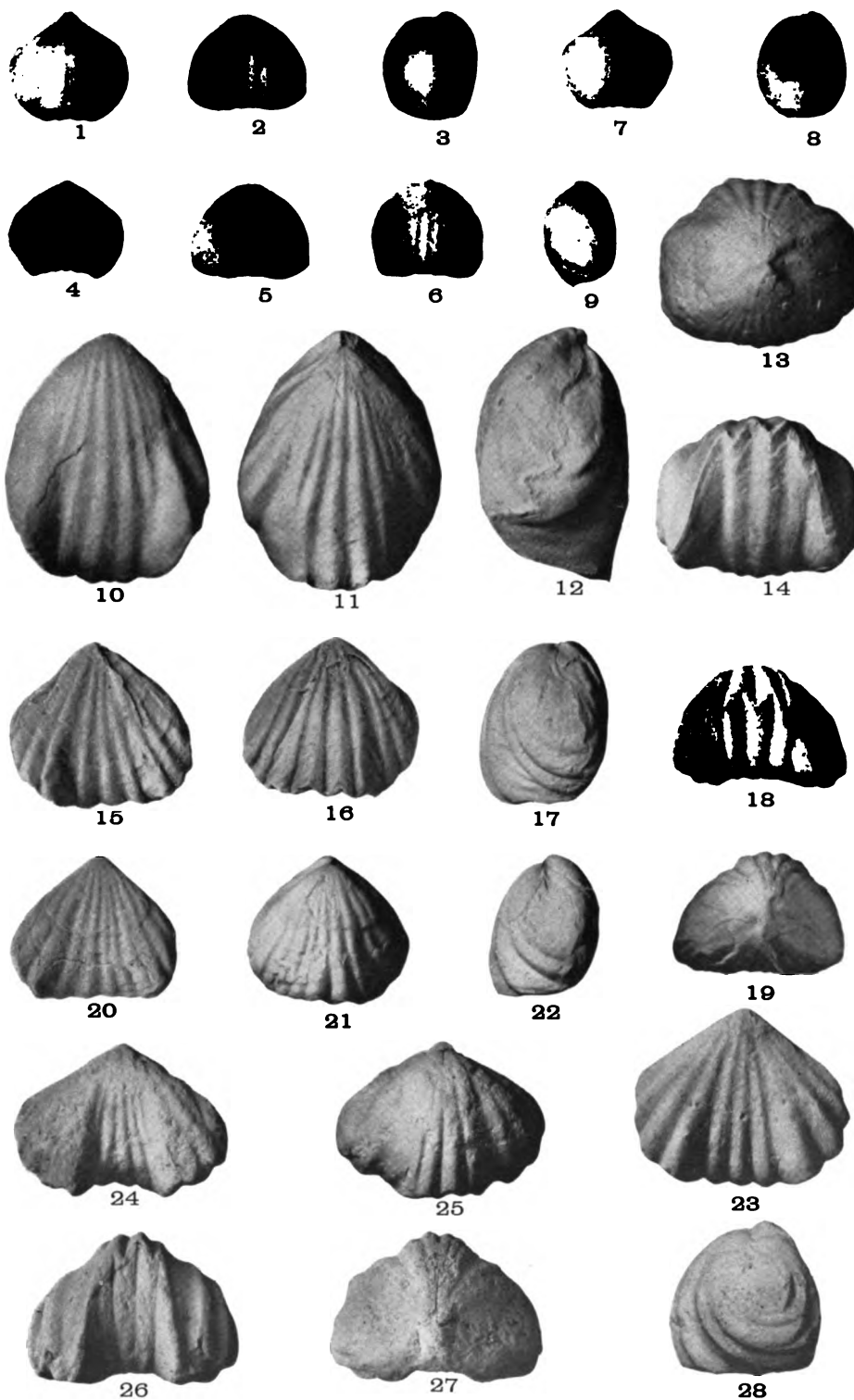
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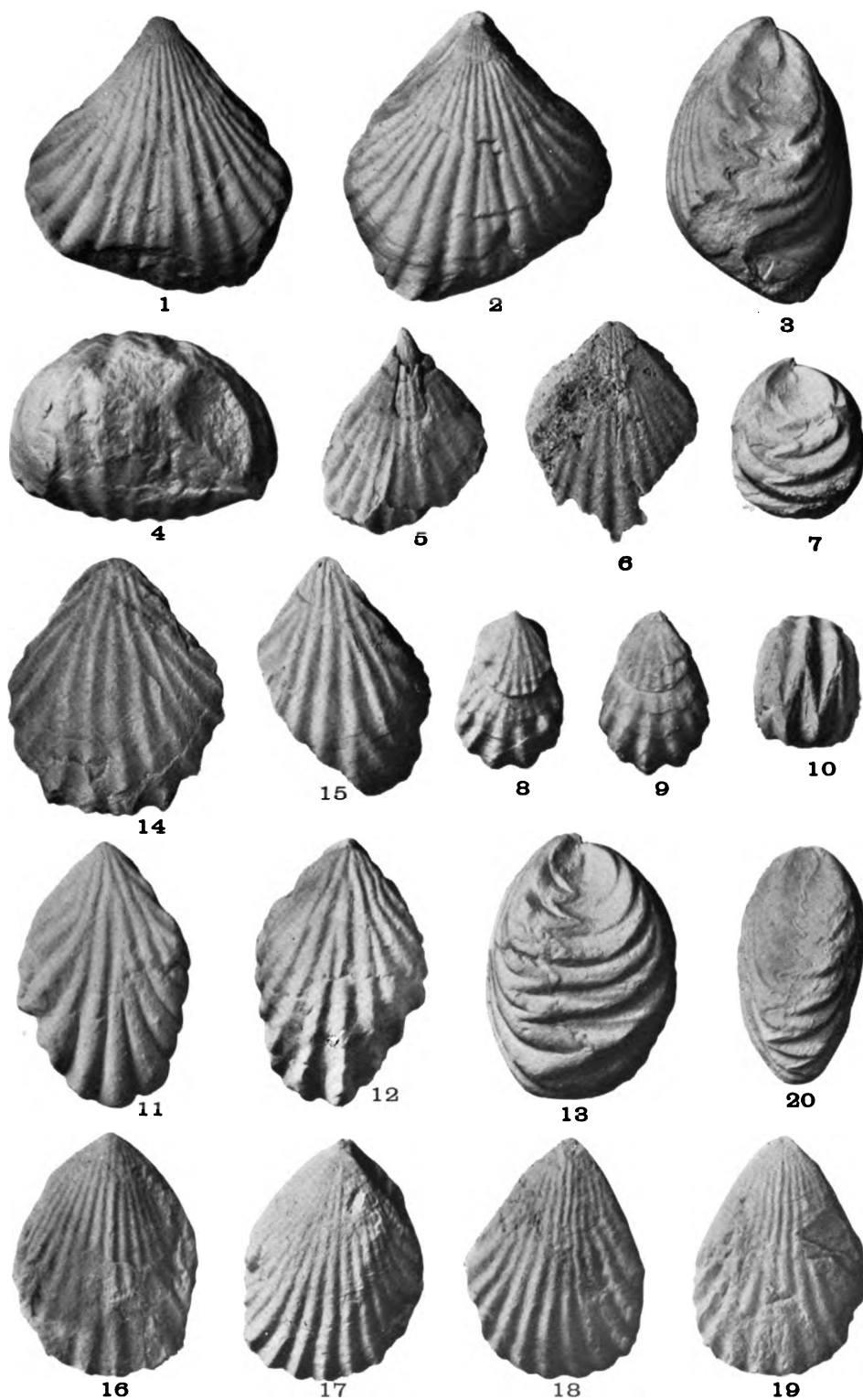
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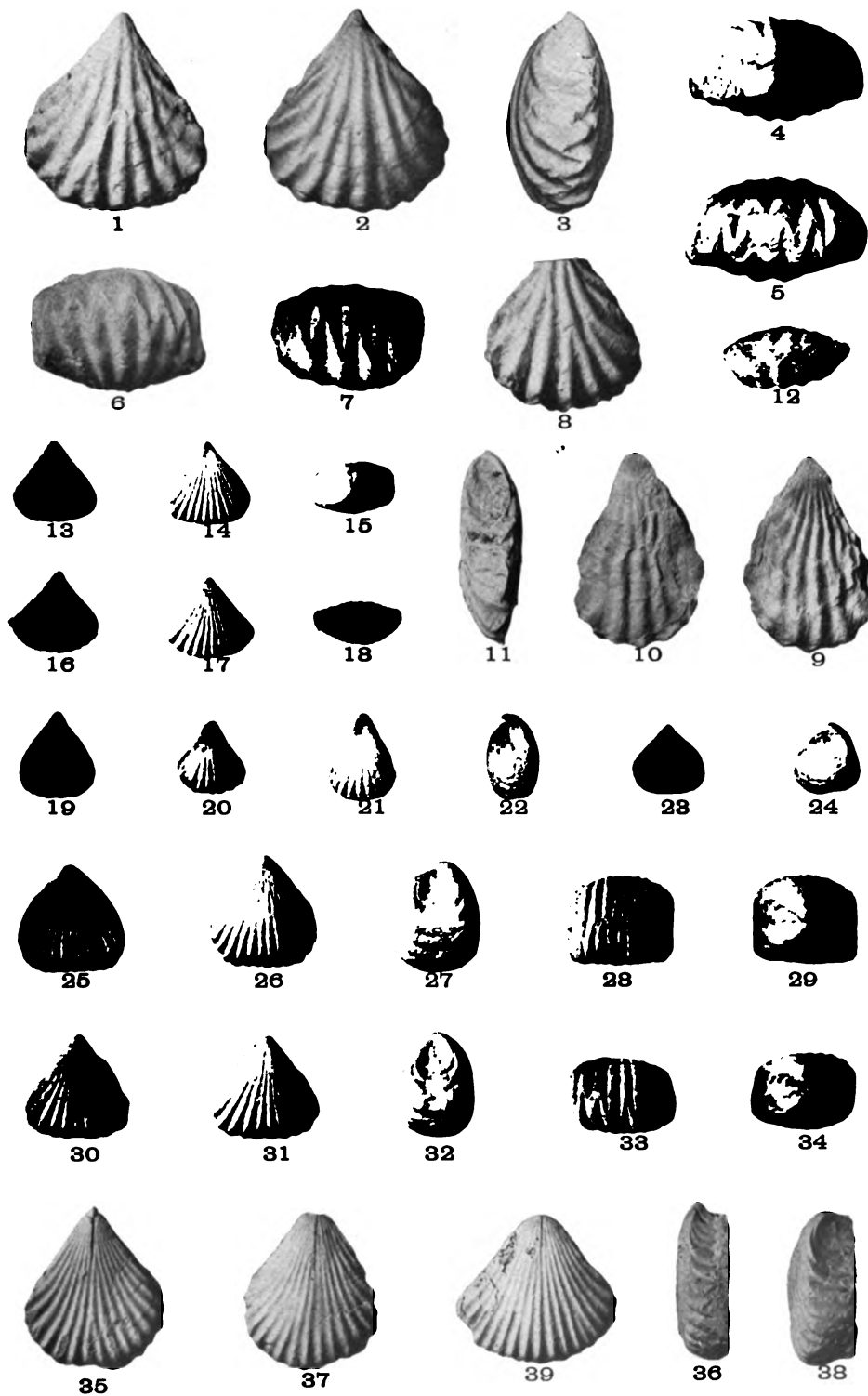
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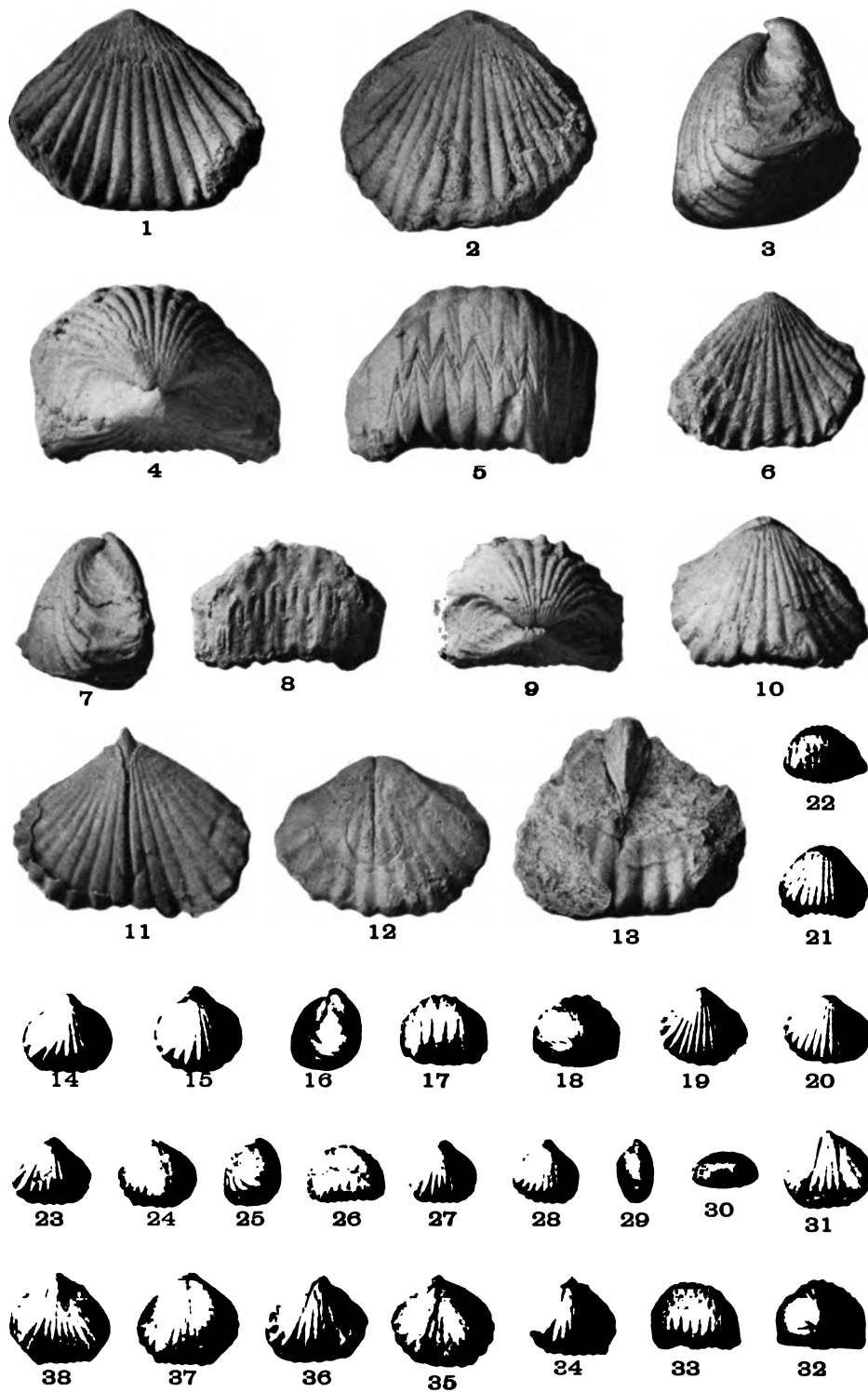
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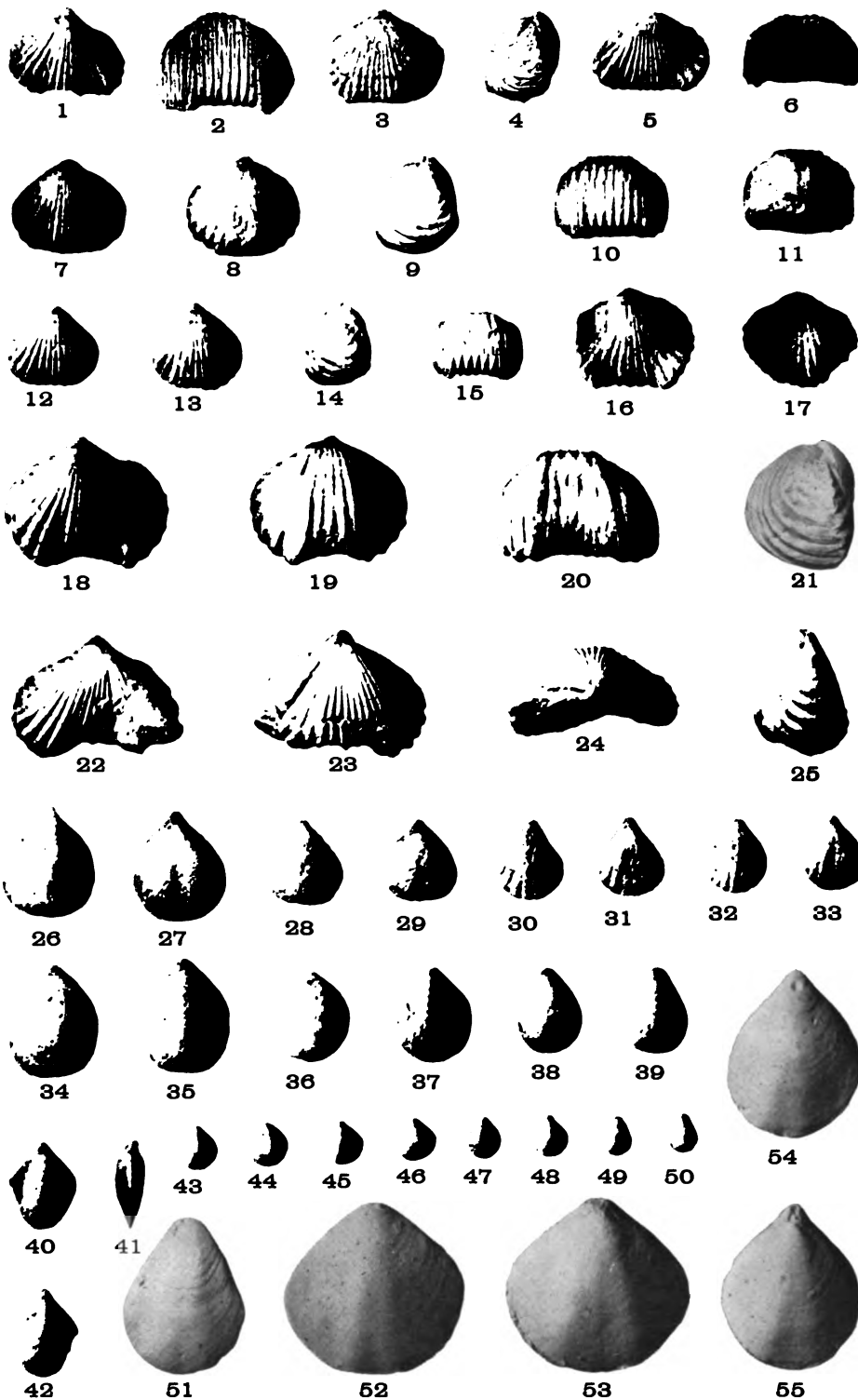


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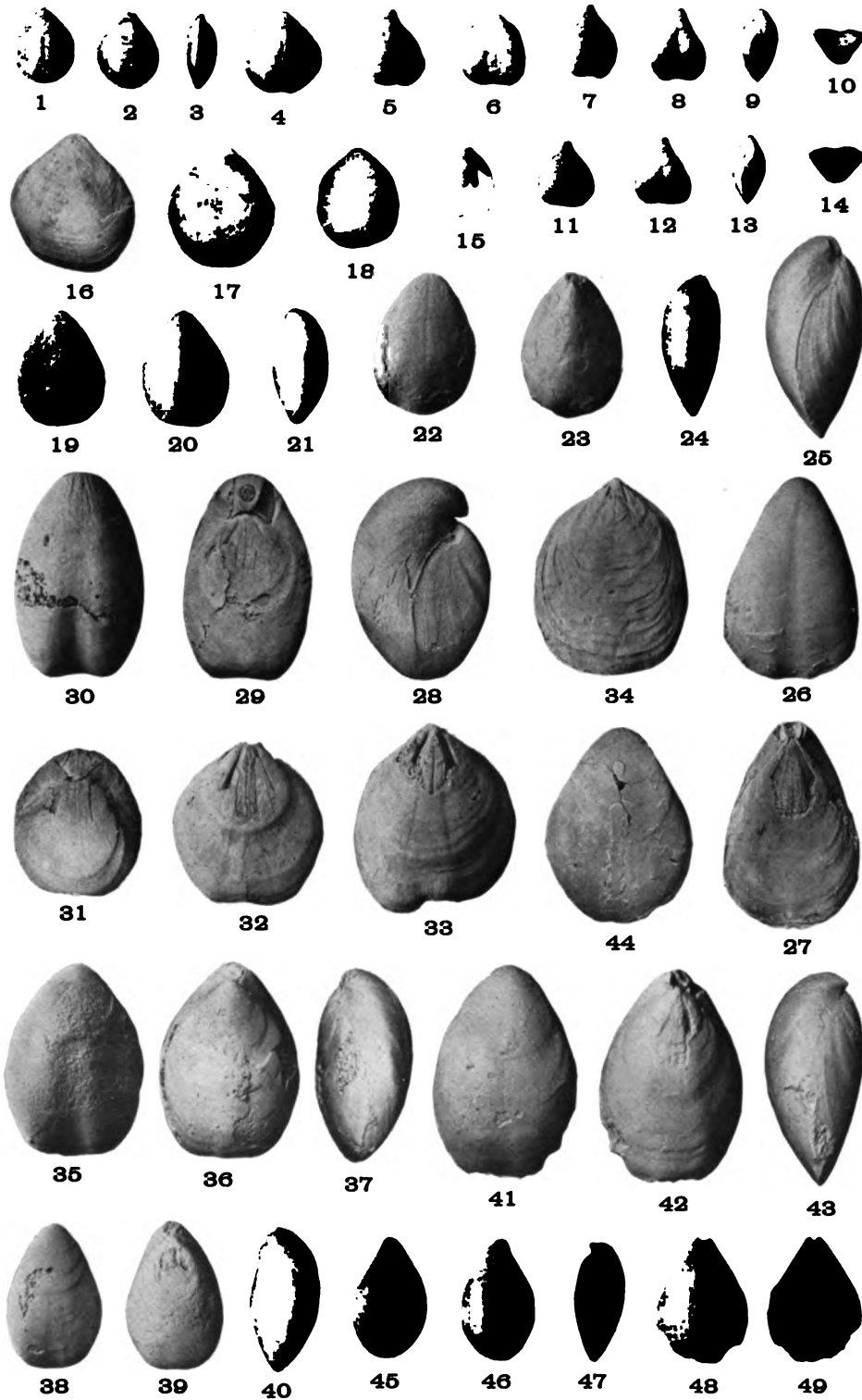
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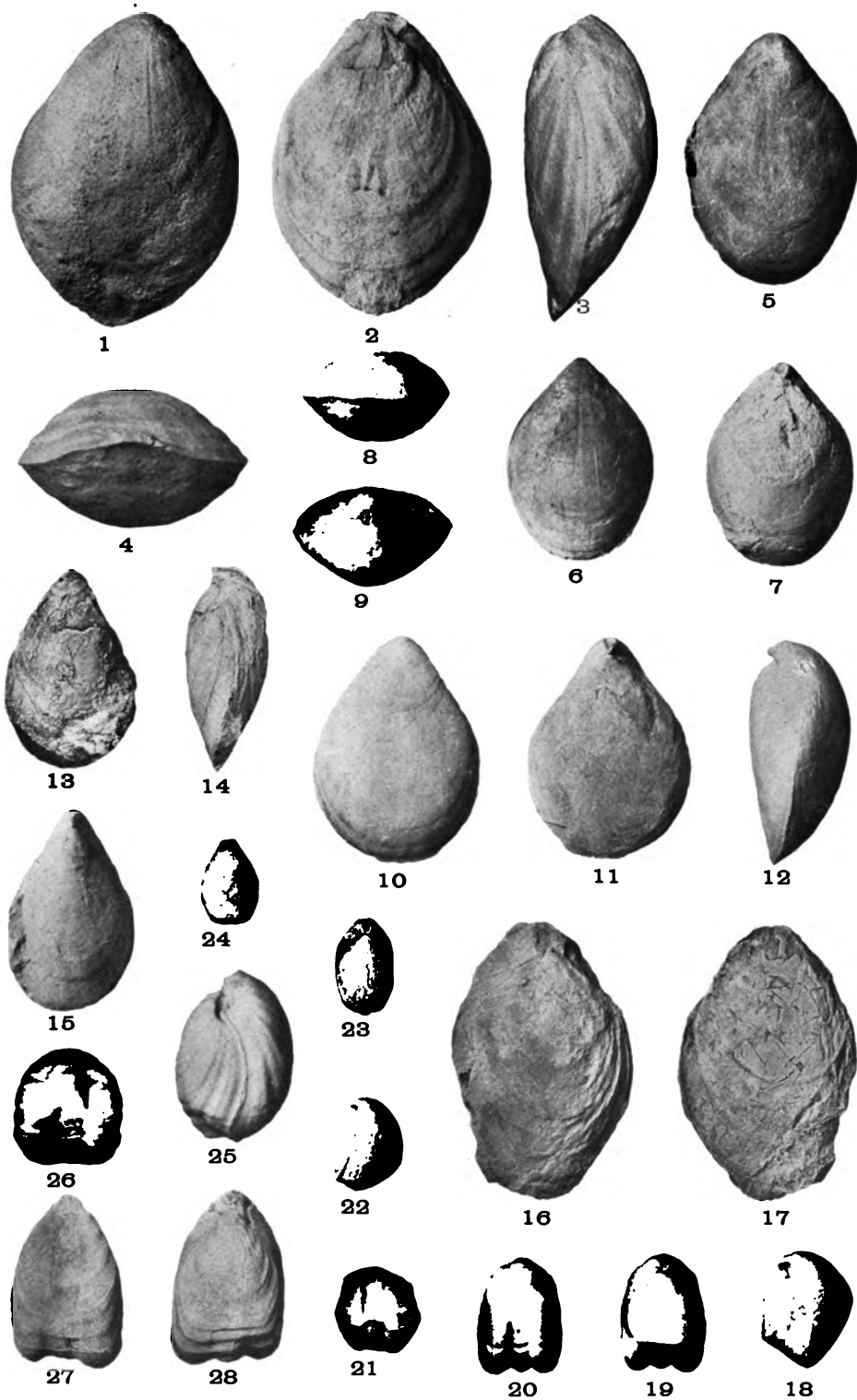
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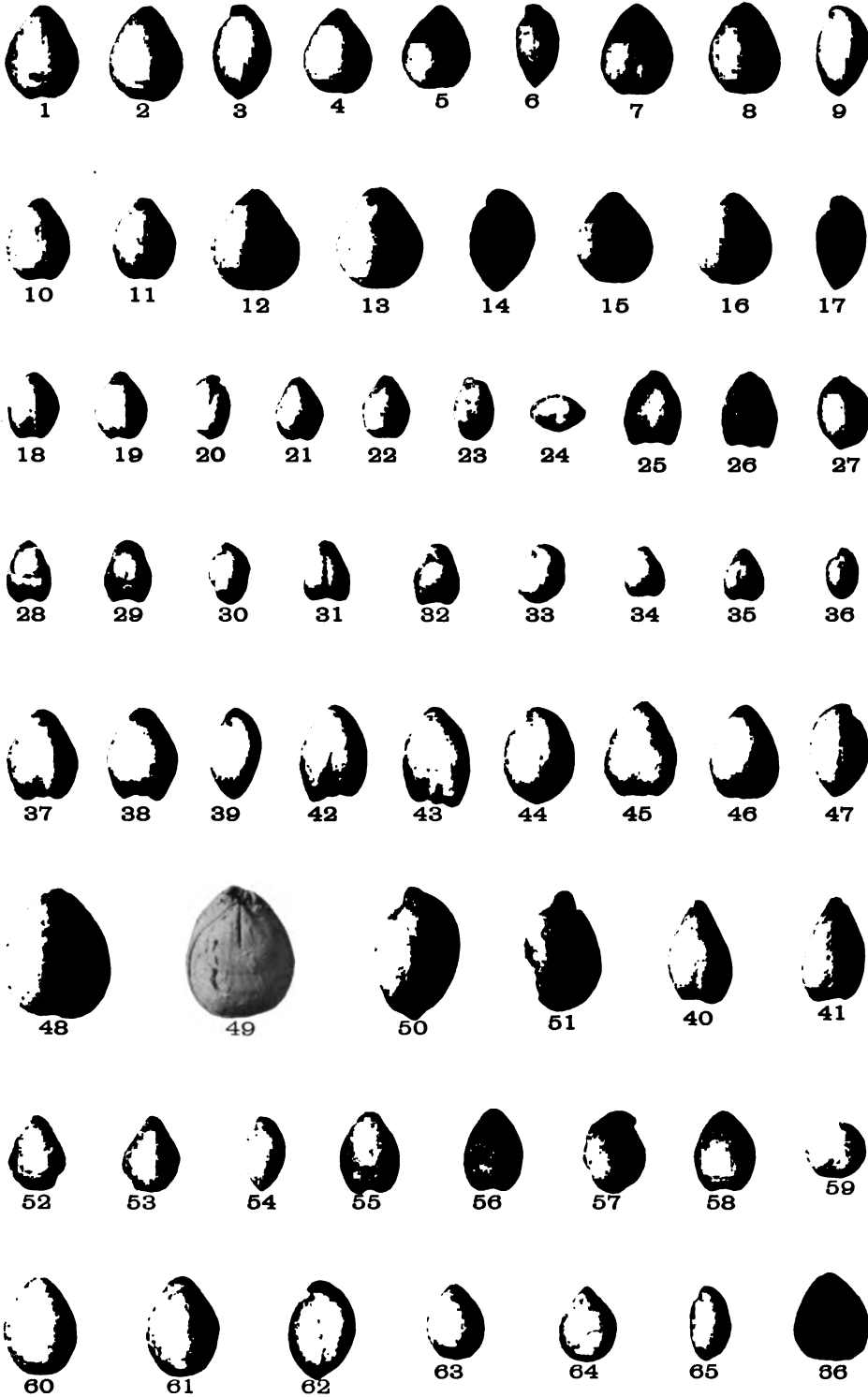


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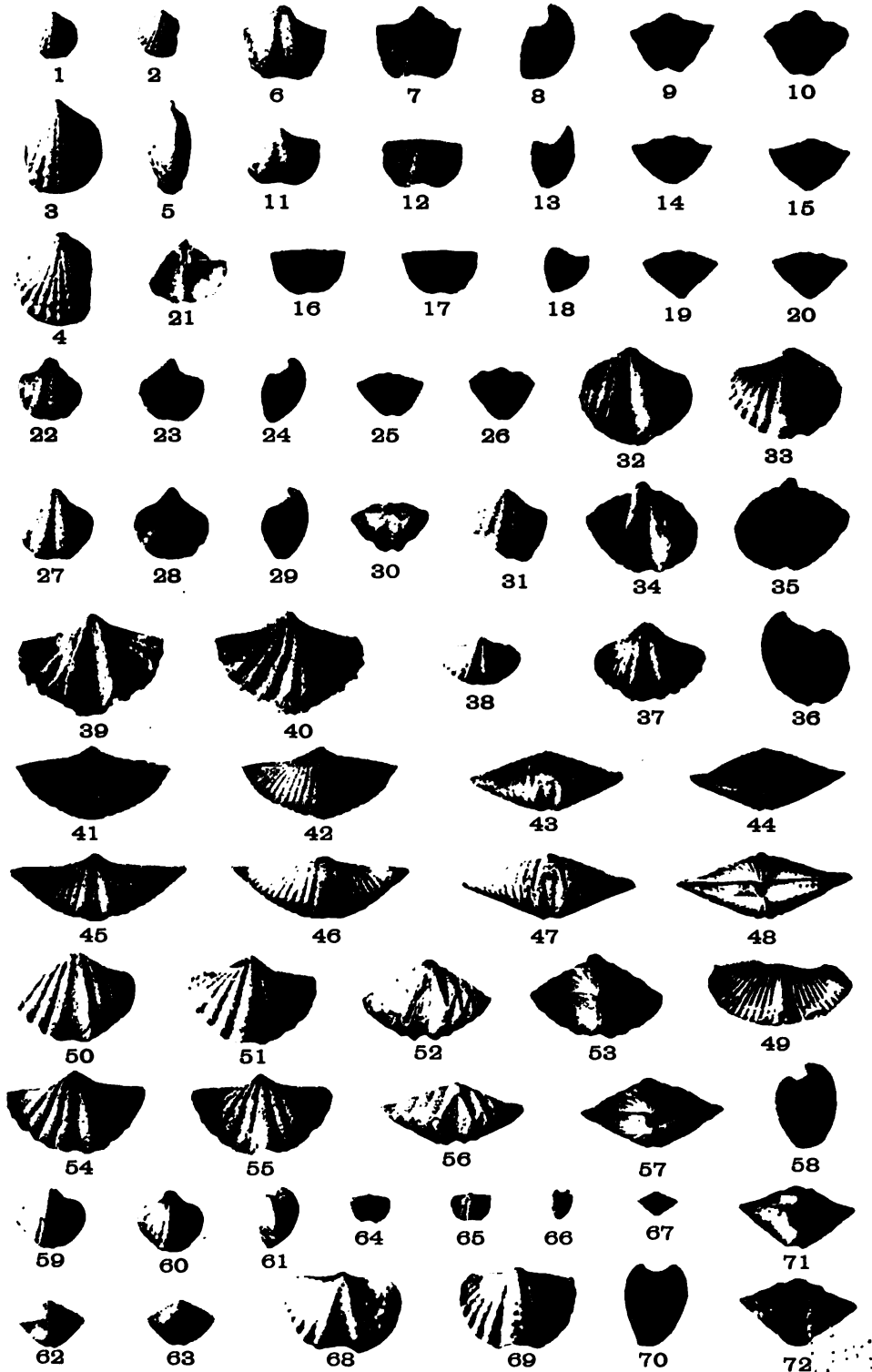


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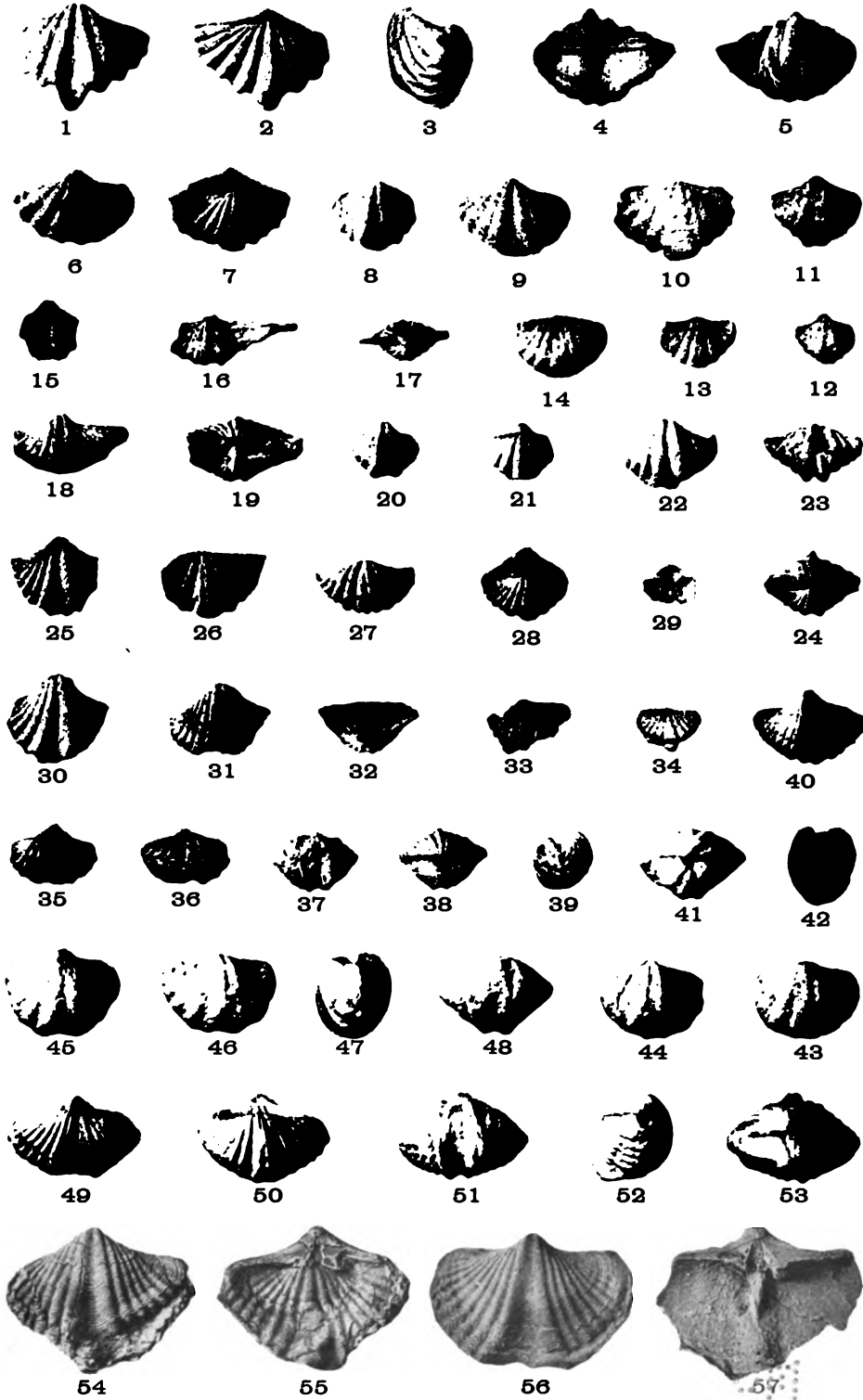
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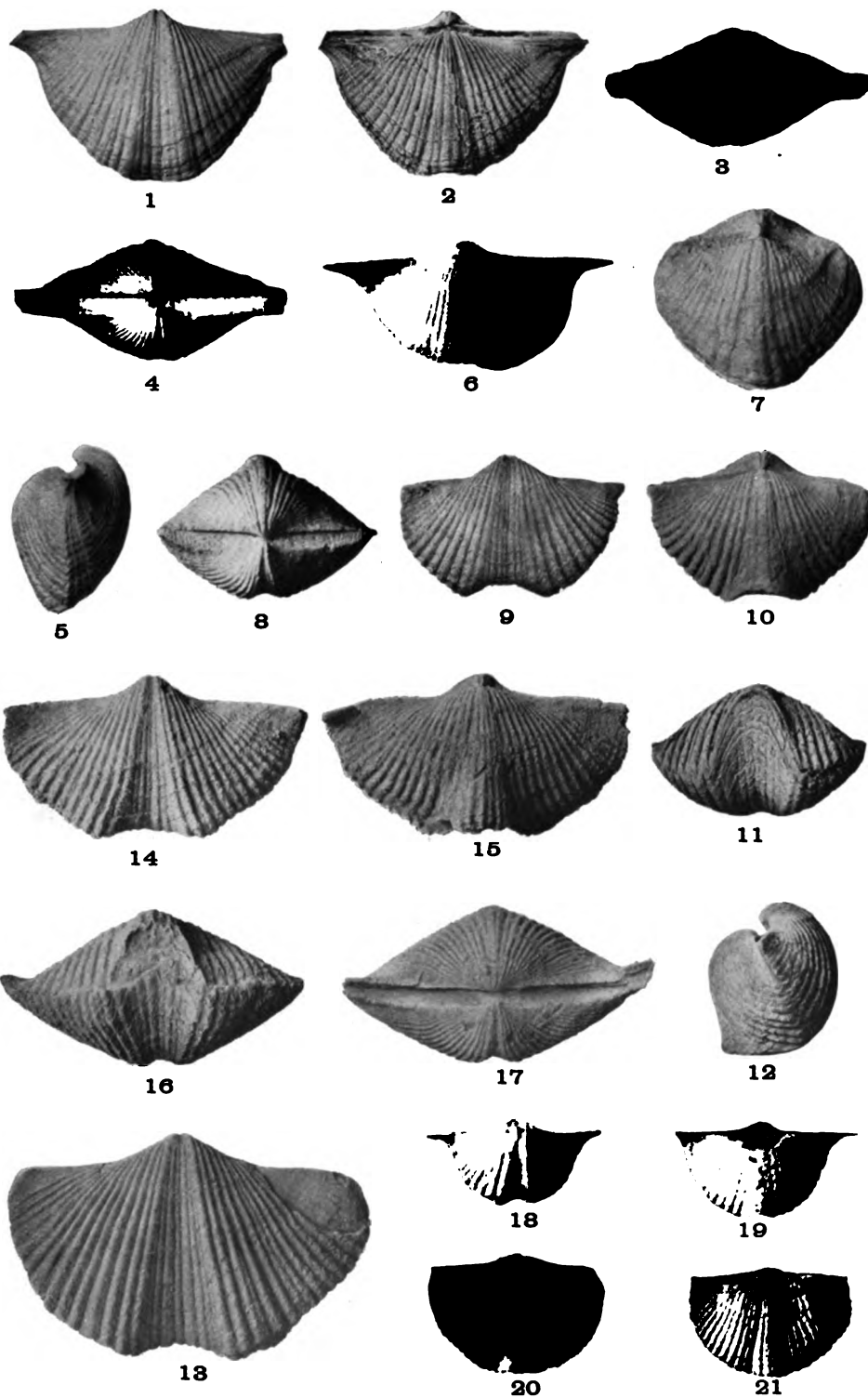


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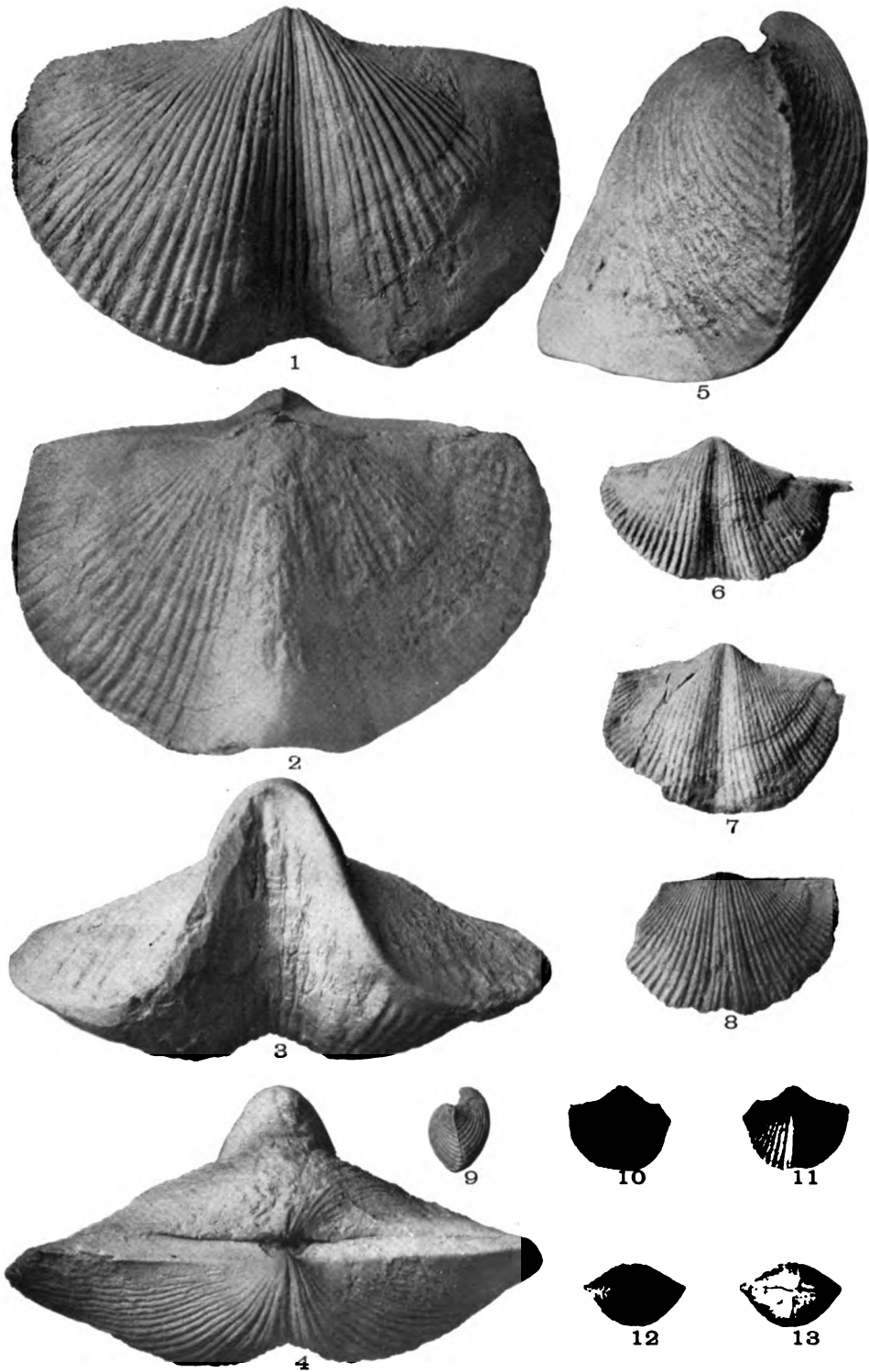
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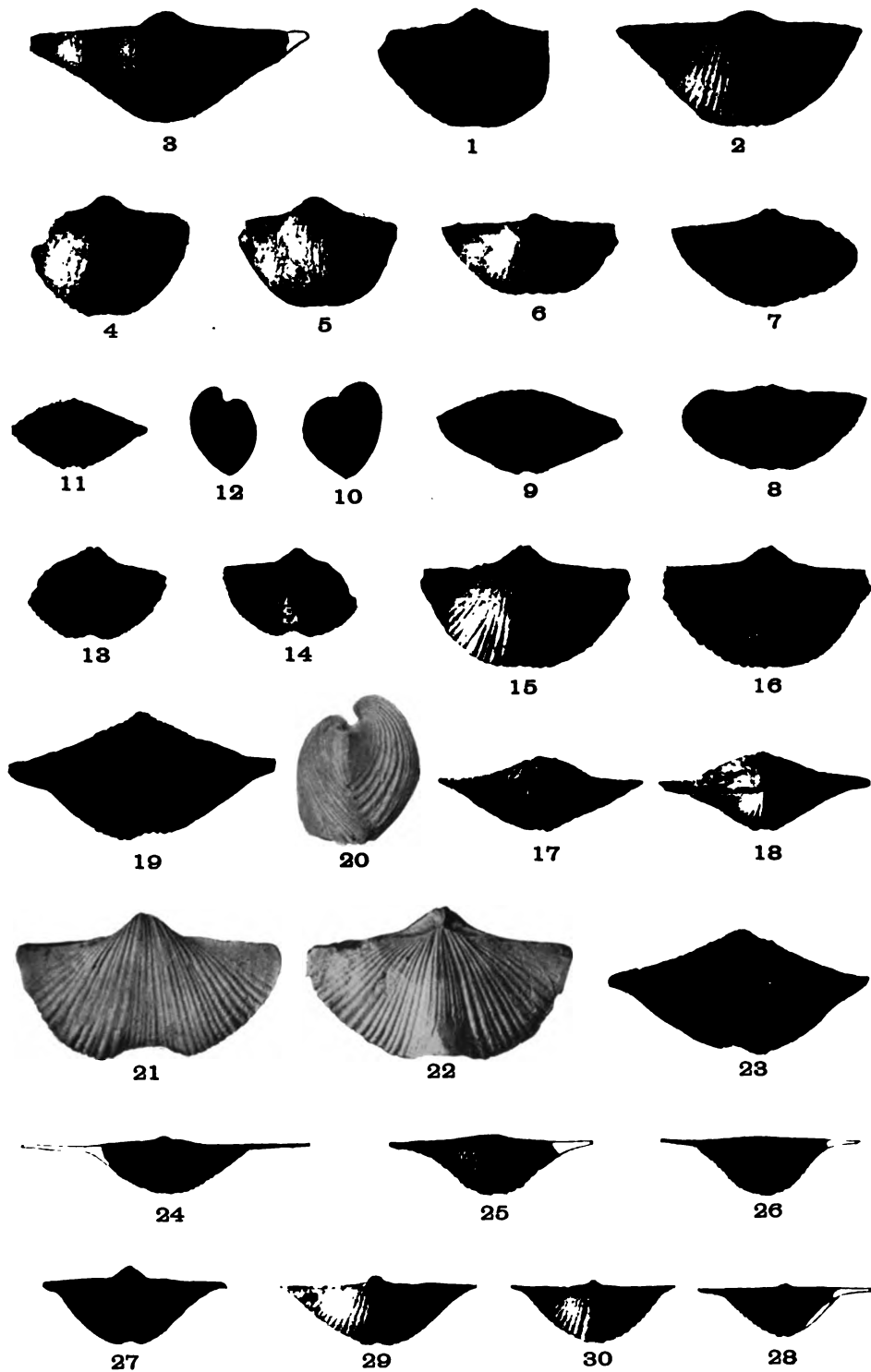
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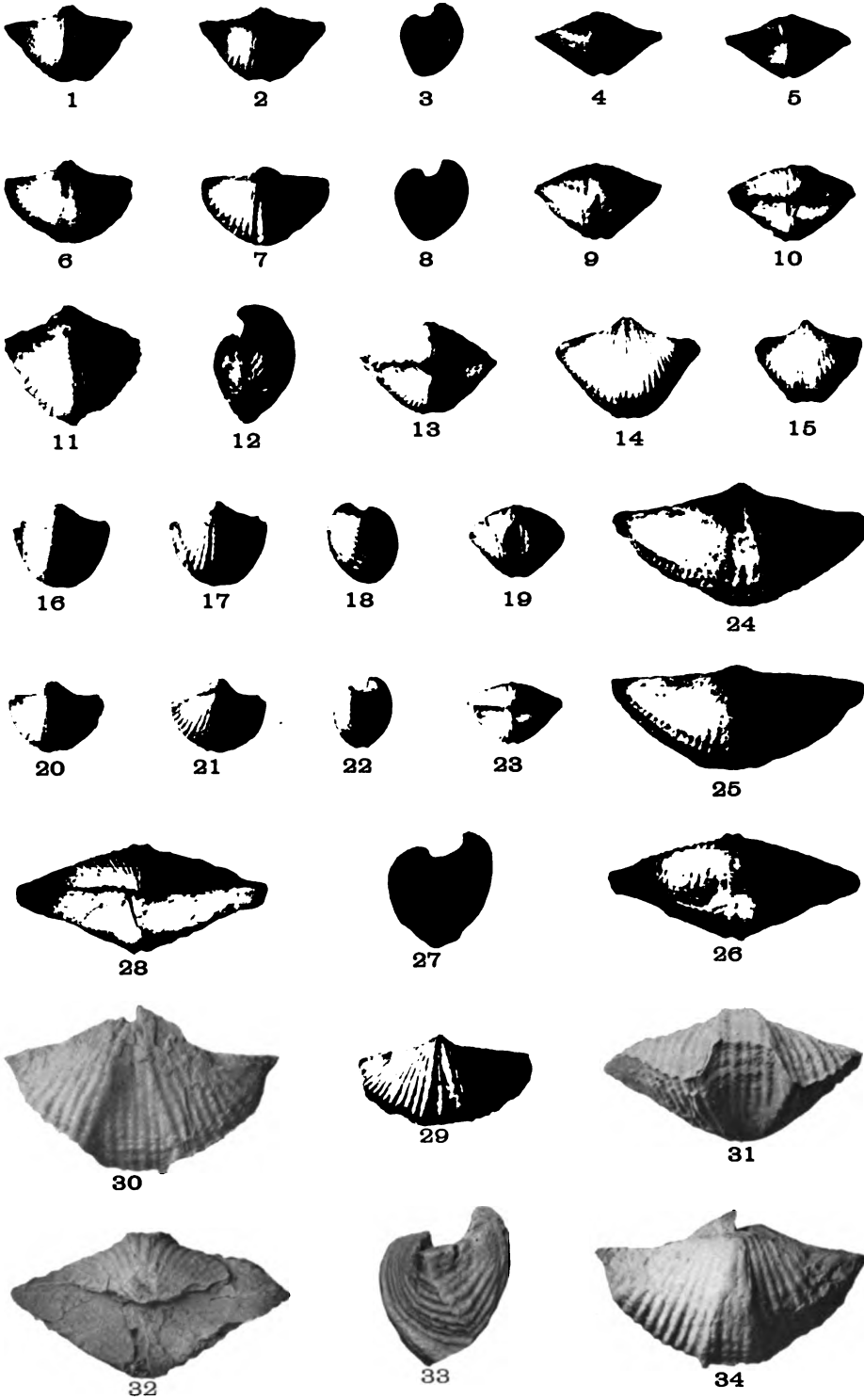
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EXPLANATION OF PLATE XLI.

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12-14. Brachial, posterior and pedicle views of the holotype. (A. M. N. H., No. 5111—1.)

*Burlington limestone, Burlington, Iowa.*



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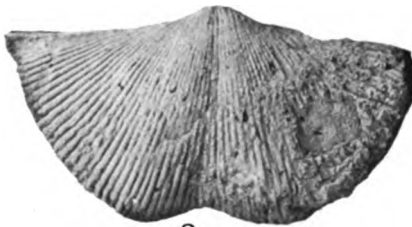
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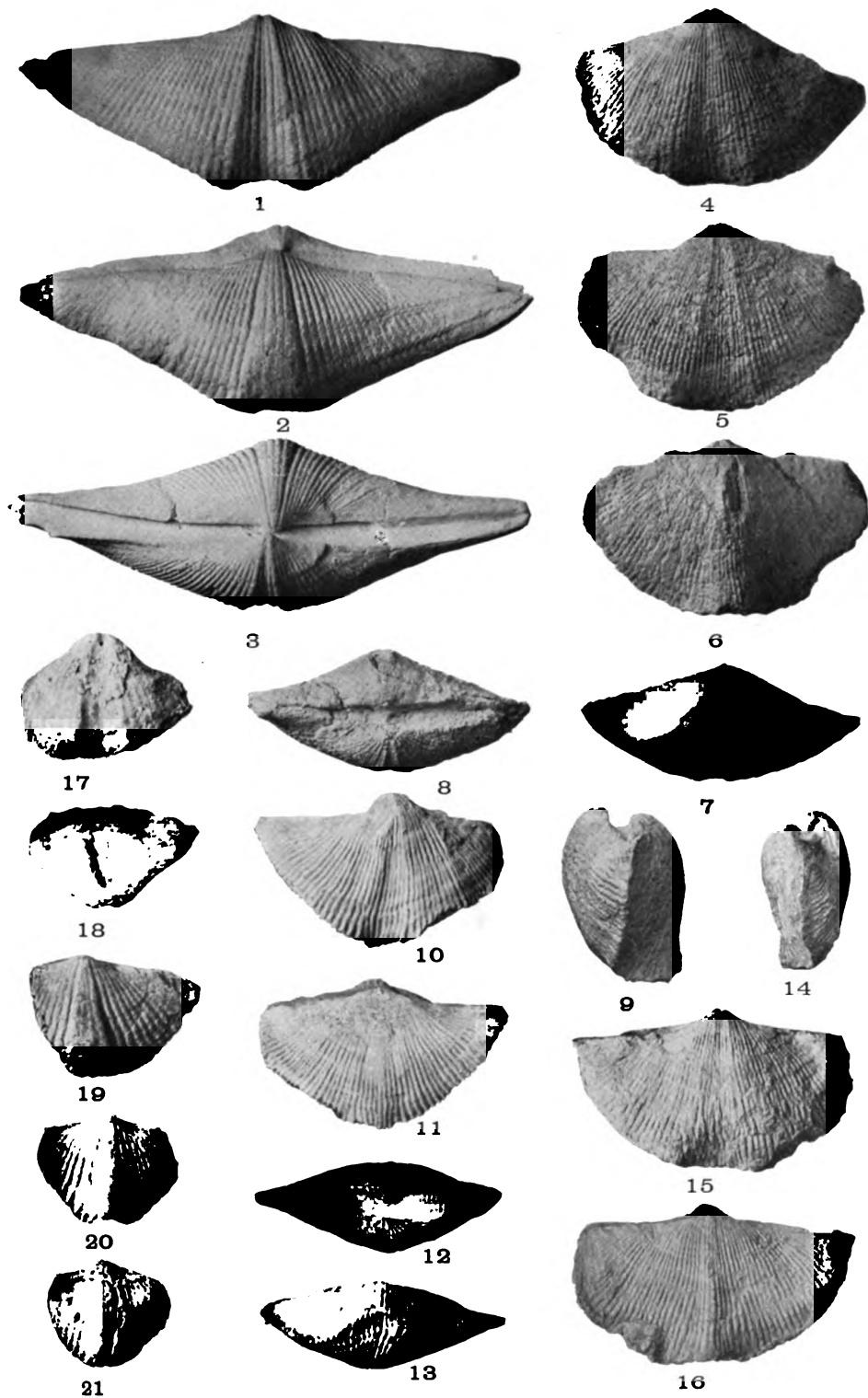
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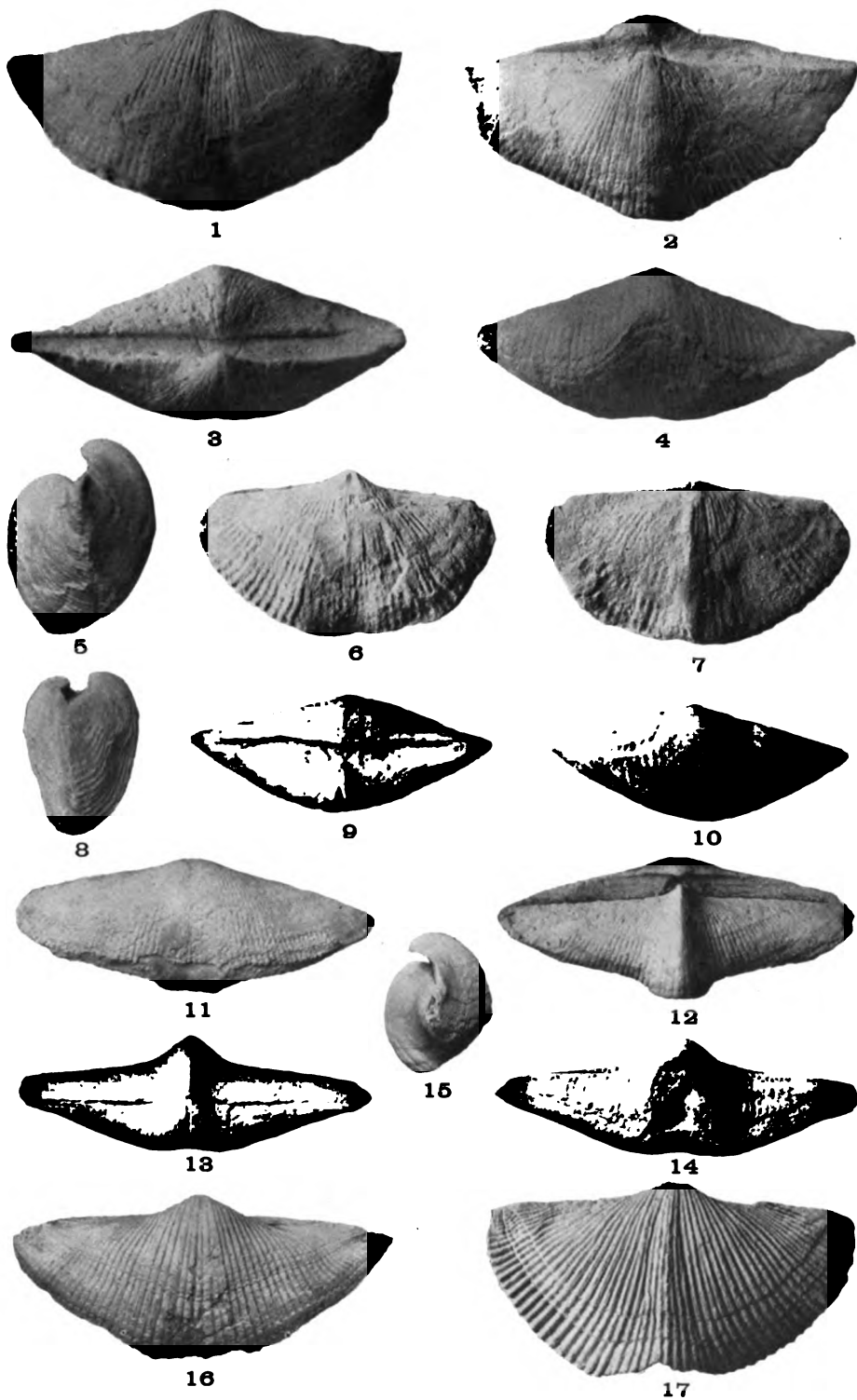
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# EXPLANATION OF PLATE XLIII.

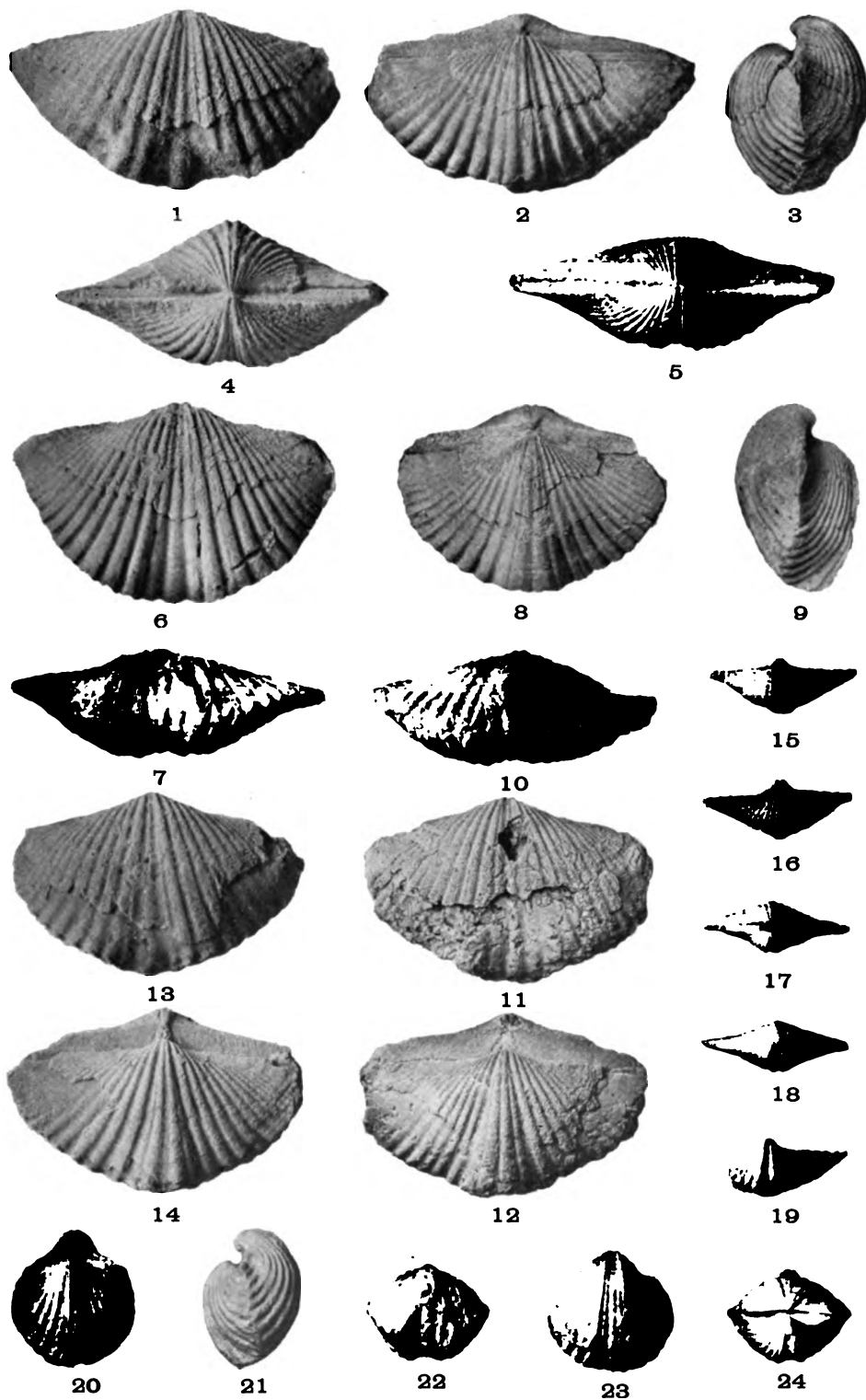
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# EXPLANATION OF PLATE XLIV.

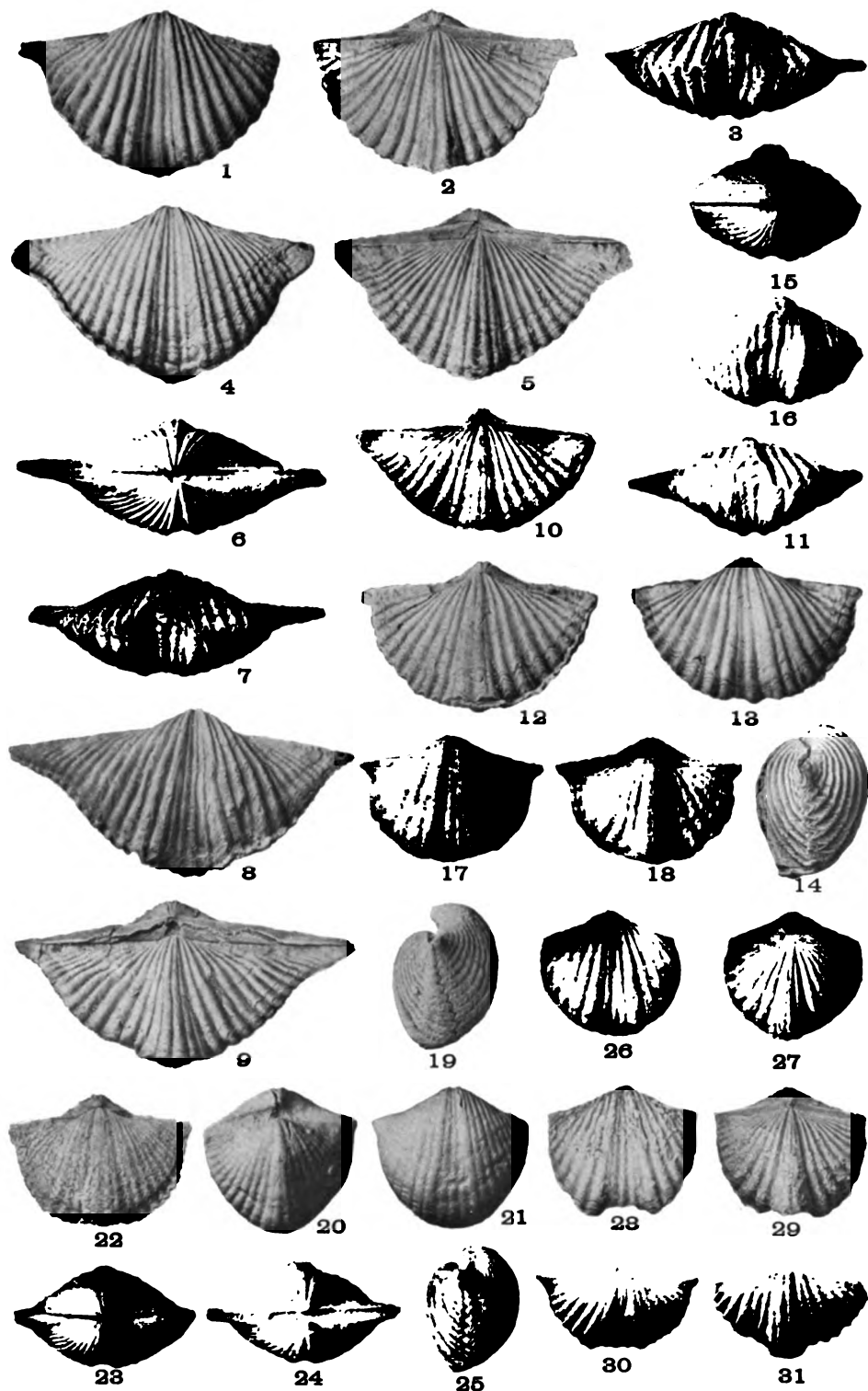
- Figs. 1-14. *SPIRIFER WASHINGTONENSIS* n. sp.....p. 339  
 1-4. Pedicle, brachial, lateral and posterior views of a nearly complete specimen. 5-7. Posterior, pedicle and anterior views of another specimen. 8-9. Brachial and lateral views of a third specimen. Cotypes. (W. M., No. 13550.)  
*Keokuk limestone, Monroe County, Illinois.*  
 10-12. Anterior, pedicle and brachial views of a nearly complete specimen. Cotypes. (W. M., No. 7522.)  
*Keokuk limestone, Spergen Hill, Indiana.*  
 13-14. Pedicle and brachial views of a nearly complete specimen. Cotypes. (W. M., No. 13577.)  
*Keokuk limestone, Salem, Indiana.*
- Figs. 15-19. *SPIRIFER MUNDULUS* Rowley.....p. 333  
 15-18. Pedicle, brachial, posterior and anterior views of a very perfect shell. Metatype. (R. R. R.)  
*Burlington white chert, Louisiana, Missouri.*  
 19. View of an incomplete pedicle valve. (W. M., No. 5635.)  
*Burlington limestone, near Springfield, Missouri.*
- Figs. 20-24. *SPIRIFER BRECKENRIDGENSIS* n. sp.....p. 342  
 20-22. Brachial, lateral and anterior views of a very perfect specimen. 23-24. Pedicle and posterior views of another specimen. (D. K. G., No. 3302.)  
*Chester Group, Breckenridge County, Kentucky.*



# EXPLANATION OF PLATE XLV.

Figs. 1-31. *SPIRIFER PELLAENSIS* n. sp.....p. 340

- 1-3. Pedicle, brachial and anterior views of a large specimen.
- 4-7. Pedicle, brachial, posterior and anterior views of another specimen.
- 8-9. Pedicle and brachial views of a very large specimen.
- 10-11. Brachial and anterior views of a nearly perfect specimen.
- 12-14. Brachial, pedicle and lateral views of a nearly perfect specimen. (W. M., No. 13571.)  
*Pella Beds, Pella, Iowa.*
- 15-16. Posterior and anterior views of a specimen with a short hinge-line. (W. M.)  
*Pella Beds, Iowa.*
- 17-18. Pedicle and brachial views of a nearly perfect specimen.
- 19-21. Lateral, brachial and pedicle views of a nearly perfect specimen. (W. M., No. 5771.)  
*Pella Beds, Fort Dodge, Iowa.*
- 22-23. Brachial and posterior views of a nearly perfect specimen, the holotype. 24-25. Posterior and lateral views of another specimen. (W. M., No. 7535.)  
*Pella Beds, Keosauqua, Iowa.*
- 26-27. Pedicle and brachial views of a nearly perfect specimen.
- 28-29. Pedicle and brachial views of another specimen. (W.M., No. 7247.)  
*Marville limestone, Fayette County, Pennsylvania.*
30. View of an internal cast of a pedicle valve. 31. View of an internal cast of a brachial valve. (W. M., No. 338.)  
*Residual chert, Springfield, Missouri.*



EXPLANATION OF PLATE XLVI.

- Figs. 1-12. *SPIRIFER INCREBESCENS* Hall.....p. 343  
1-5. Pedicle, brachial, lateral, posterior and anterior views of a very perfect specimen. 6-9. Pedicle, brachial, posterior and anterior views of another specimen. 10-12. Pedicle, brachial and anterior views of a smaller specimen. (W. M., No. 7509.)  
*Chester Group, Chester, Illinois.*
- Figs. 13-17. *SPIRIFER CARINATUS* Rowley.....p. 336  
Lateral, pedicle, brachial, posterior and anterior views of a nearly complete specimen. Metatype. (R. R. R.)  
*Lower Burlington limestone, Louisiana, Missouri.*



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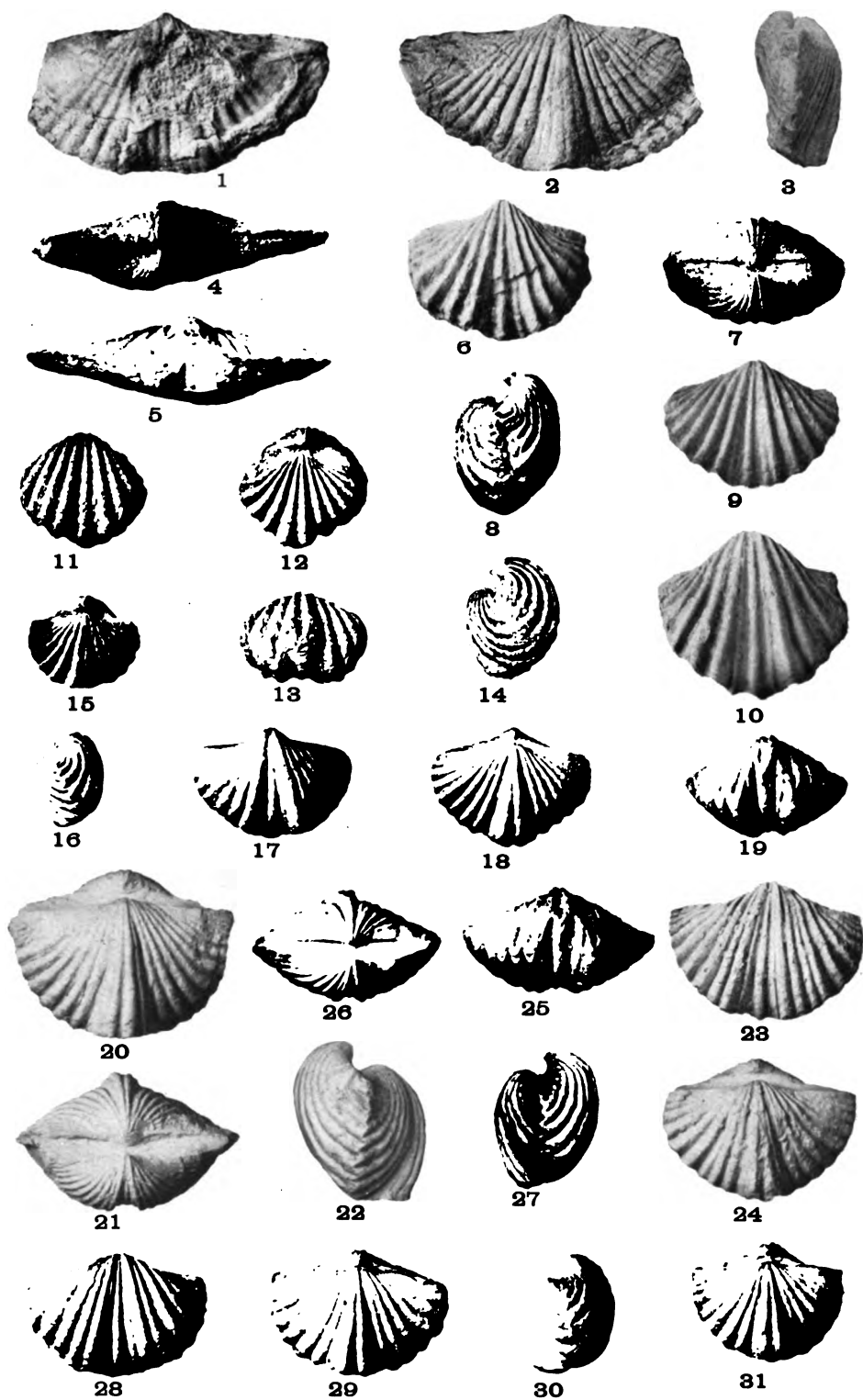
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# EXPLANATION OF PLATE XLVII.

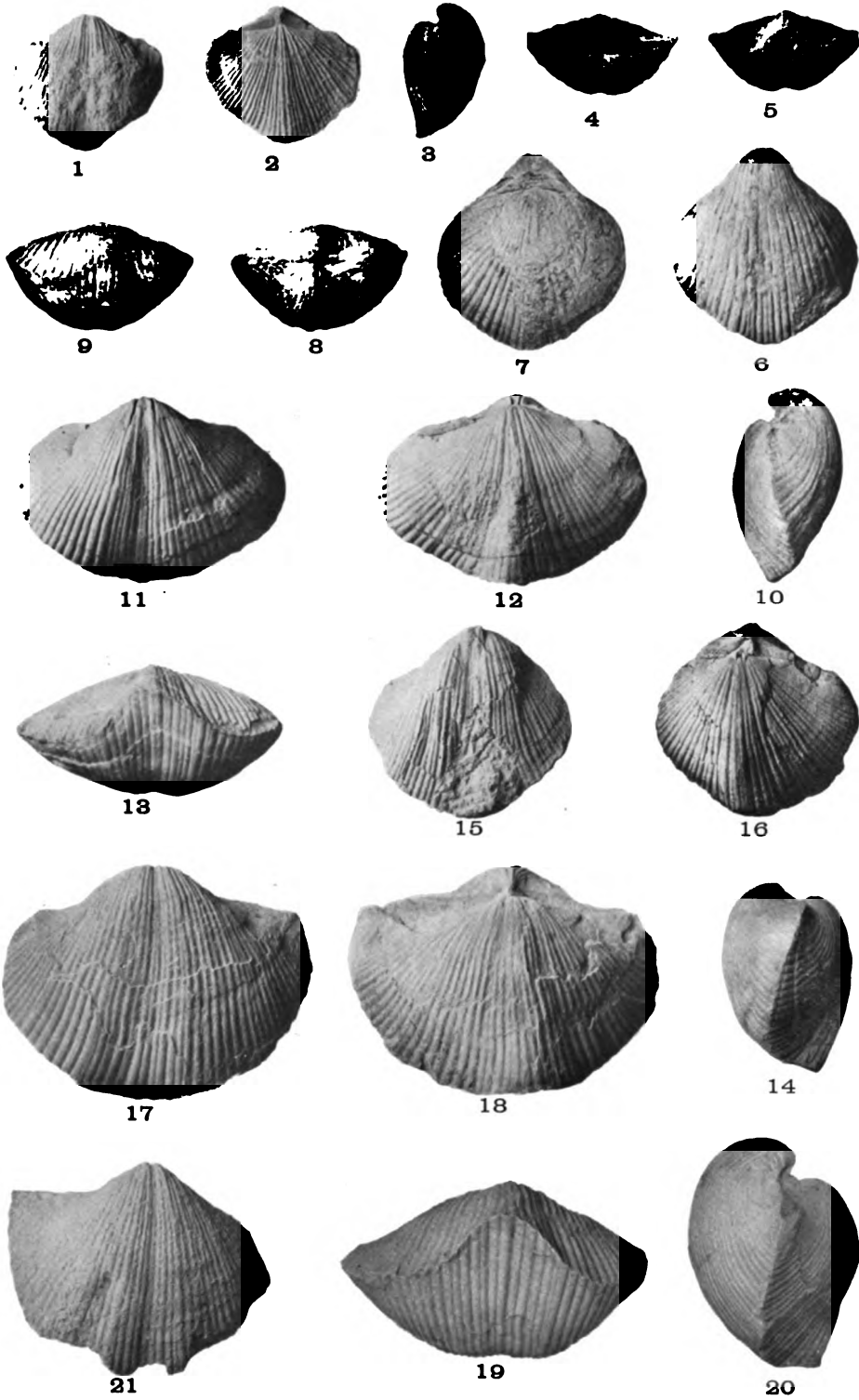
- Figs. 1-5. *SPIRIFER CRAWFORDSVILLENSIS* n. sp. ....p. 338  
 Pedicle, brachial, lateral, posterior and anterior views of the holotype. (W. M., No. 13528.)  
*Crawfordsville shale, Crawfordsville, Indiana.*
- Figs. 6-16. *SPIRIFER BIFURCUTUS* Hall. ....p. 346  
 6-8. Pedicle, posterior and lateral views of a nearly complete specimen. 9-10. Views of two pedicle valves. (W. M., No. 14784.)  
*Salem limestone, Hull's Hollow, near Alton, Illinois.*  
 11-14. Pedicle, brachial, anterior and lateral views of a nearly perfect specimen. 15-16. Brachial and lateral views of another specimen. (W. M., No. 7530.)  
*Salem limestone, Spergen Hill, Indiana.*
- Figs. 17-31. *SPIRIFER LEIDYI* Norwood and Pratten. ....p. 345  
 17-19. Pedicle, brachial and anterior views of a very perfect specimen. 20-22. Brachial, posterior and lateral views of a large specimen. 23-27. Pedicle, brachial, anterior, posterior and lateral views of a perfect specimen. 28-29. Pedicle and brachial views of another example. 30-31. Lateral and brachial views of a nearly perfect specimen. (W. M., No. 7511.)  
*Chester Group, Chester, Illinois.*





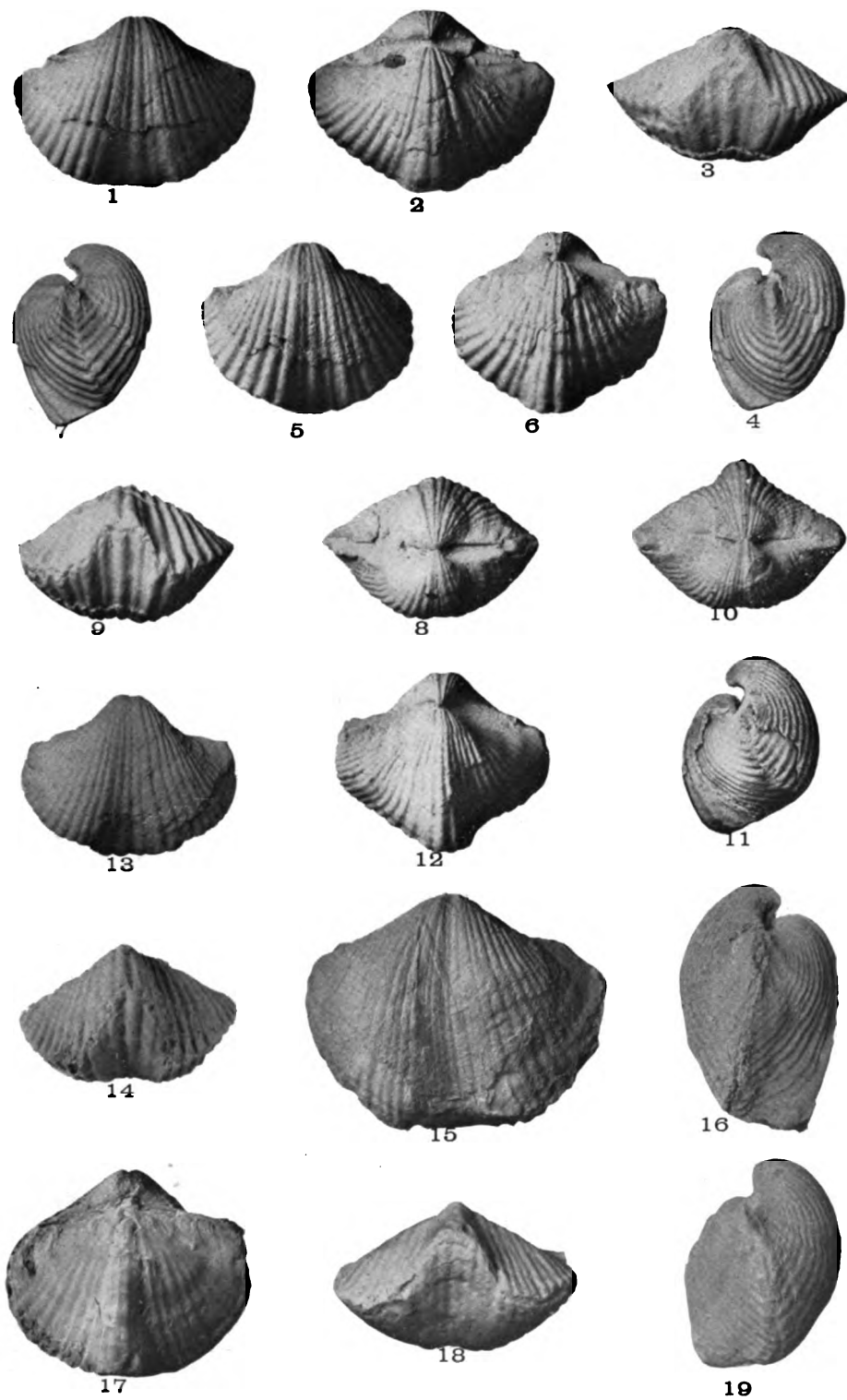
# EXPLANATION OF PLATE XLVIII.

- Figs. 1-5. *SPIRIFER TENUIMARGINATUS* Hall.....p. 355  
 Pedicle, brachial, lateral, posterior and anterior views of a sulphur  
 cast of the holotype. (W. M., No. 14774.)  
*Keokuk limestone, Warsaw, Illinois.*
- Figs. 6-16. *SPIRIFER ROSTELLATUS* Hall.....p. 353  
 6-10. Pedicle, brachial, posterior, anterior and lateral views of the  
 holotype. (W. M., No. 6930.)  
*Keokuk limestone, Warsaw, Illinois.*  
 11-14. Pedicle, brachial, anterior and lateral views of an internal  
 cast of a rather broad specimen. (D. K. G., No. 3201.)  
*Residual chert, Richland Creek, Callaway Co., Missouri.*  
 15-16. Pedicle and brachial views of an imperfect internal cast.  
 (W. M., No. 339.)  
*Residual chert, Springfield, Missouri.*
- Figs. 17-21. *SPIRIFER STRIATIFORMIS* Meek.....p. 364  
 17-20. Pedicle, brachial, anterior and lateral views of a nearly per-  
 fect specimen. (W. M., No. 13578.)  
*Waverly Group, Medina, Ohio.*  
 21. View of an imperfect pedicle valve. (W. M., No. 5676.)  
*Chouteau limestone, Green County, Missouri.*



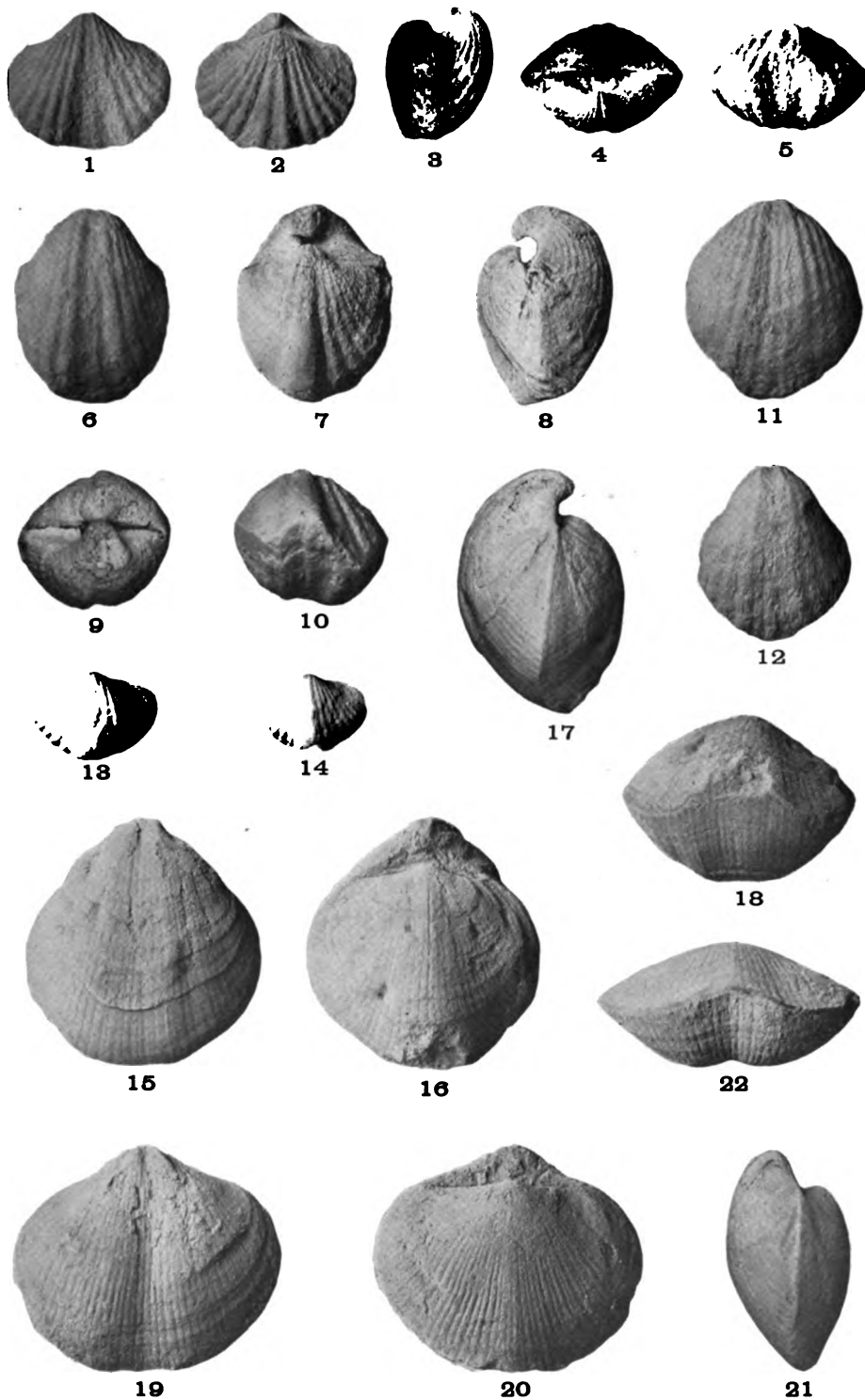
EXPLANATION OF PLATE XLIX.

- Figs. 1-14. *SPIRIFER KEOKUK* Hall.....p. 350  
1-4. Pedicle, brachial, anterior and lateral views of a nearly complete specimen. 5-9. Pedicle, brachial, lateral, posterior and anterior views of another specimen. (W. M., No. 13519.)  
10-14. Posterior, lateral, brachial, pedicle and anterior views of a third specimen. (W. M., No. 5626.)  
*Keokuk limestone, Keokuk, Iowa.*
- Figs. 15-19. *SPIRIFER FLOYDENSIS* n. sp.....p. 351  
15-16. Brachial and lateral views of one of the cotypes. (W. M., No. 13526.)  
*Knobstone formation, Indiana.*  
17-19. Brachial, anterior and lateral views of another cotype. (W. M., No. 13525.)  
*Knobstone formation, Floyd County, Indiana.*



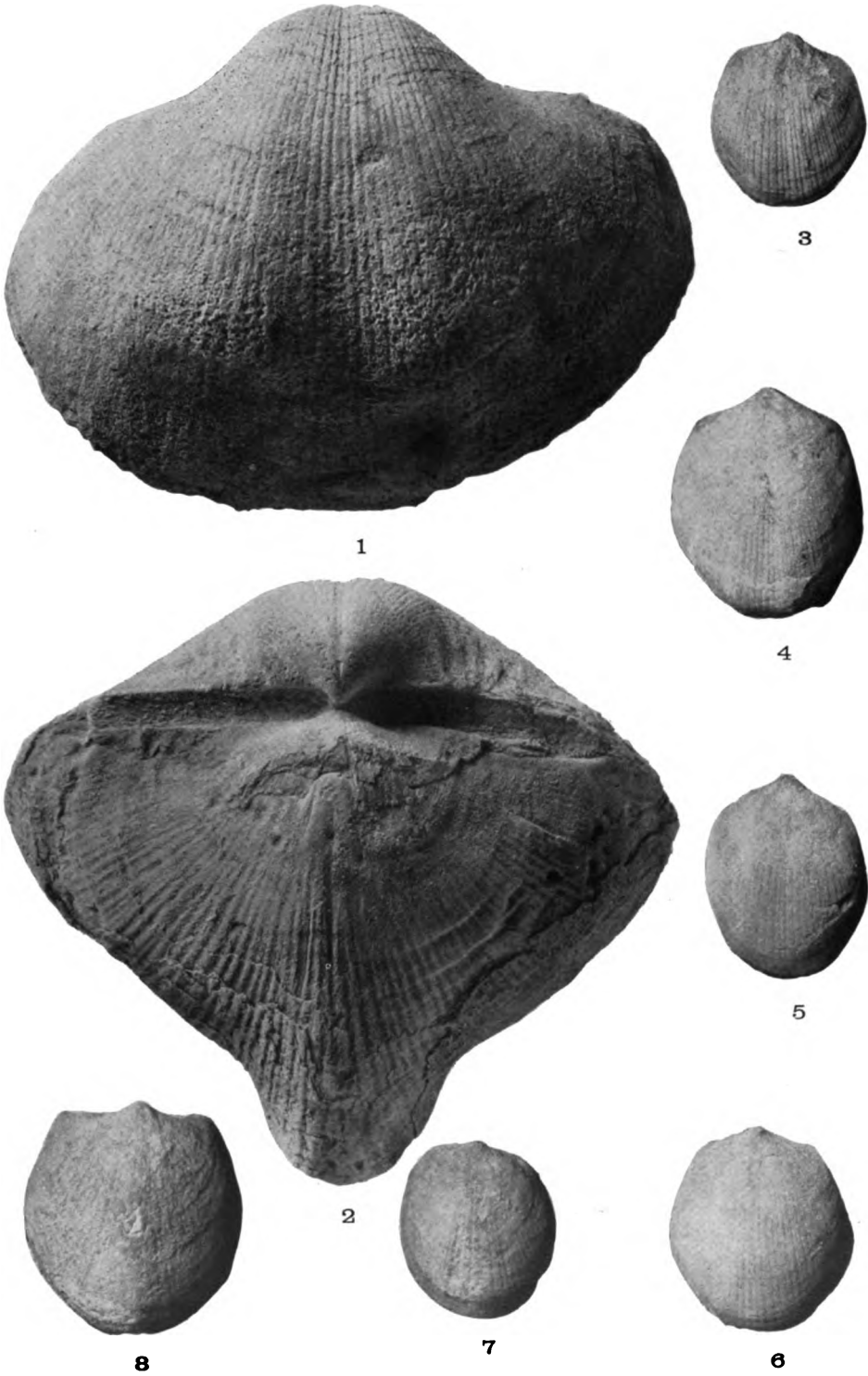
# EXPLANATION OF PLATE L.

- Figs. 1-5. *SPIRIFER LITTONI* Swallow.....p. 348  
 Pedicle, brachial, lateral, posterior and anterior views of a very  
 perfect specimen. (W. M., No. 14775.)  
*St. Louis limestone, Alton, Illinois.*
- Figs. 6-12. *SPIRIFER INDIANENSIS* n. sp.....p. 352  
 6-10. Pedicle, brachial, lateral, posterior and anterior views of a  
 partially restored specimen. 11-12. Views of two pedicle valves.  
 Cotypes. (W. M., No. 7493.)  
*Harrodsburg limestone, Spengen Hill, Indiana.*
- Figs. 13-14. *SPIRIFER MARSHALLENSIS* n. sp.....p. 349  
 Views of two brachial valves. Cotypes. (W. M., No. 13541.)  
*Kinderhook, LeGrand, Iowa.*
- Figs. 15-22. *SPIRIFER SUBROTUNDUS* n. nom.....p. 356  
 15-18. Pedicle, brachial, lateral and anterior views of a nearly com-  
 plete specimen. (W. M., No. 8618.) 19-22. Pedicle, brachial,  
 lateral and anterior views of another specimen. (W. M.,  
 No. 5932.)  
*Chonopectus sandstone, Burlington, Iowa.*



#### EXPLANATION OF PLATE LI.

- Figs. 1-2. *SPIRIFER GRIMESI* Hall.....p. 361  
Pedicle and brachial views of a large and nearly complete specimen. (W. M., No. 12942.)  
*Burlington limestone, Springfield, Missouri.*
- Figs. 3-8. *SPIRIFER MAPLENSIS* n. sp.....p. 357  
3-6. Views of four different pedicle valves. 7-8. Views of two brachial valves. (W. M., No. 10580.)  
*English River Grit, Kinderhook, Maple Mill, Washington County, Iowa.*





# EXPLANATION OF PLATE LII.

Figs. 1-4. *SPIRIFER GRIMESI* Hall.....p. 361

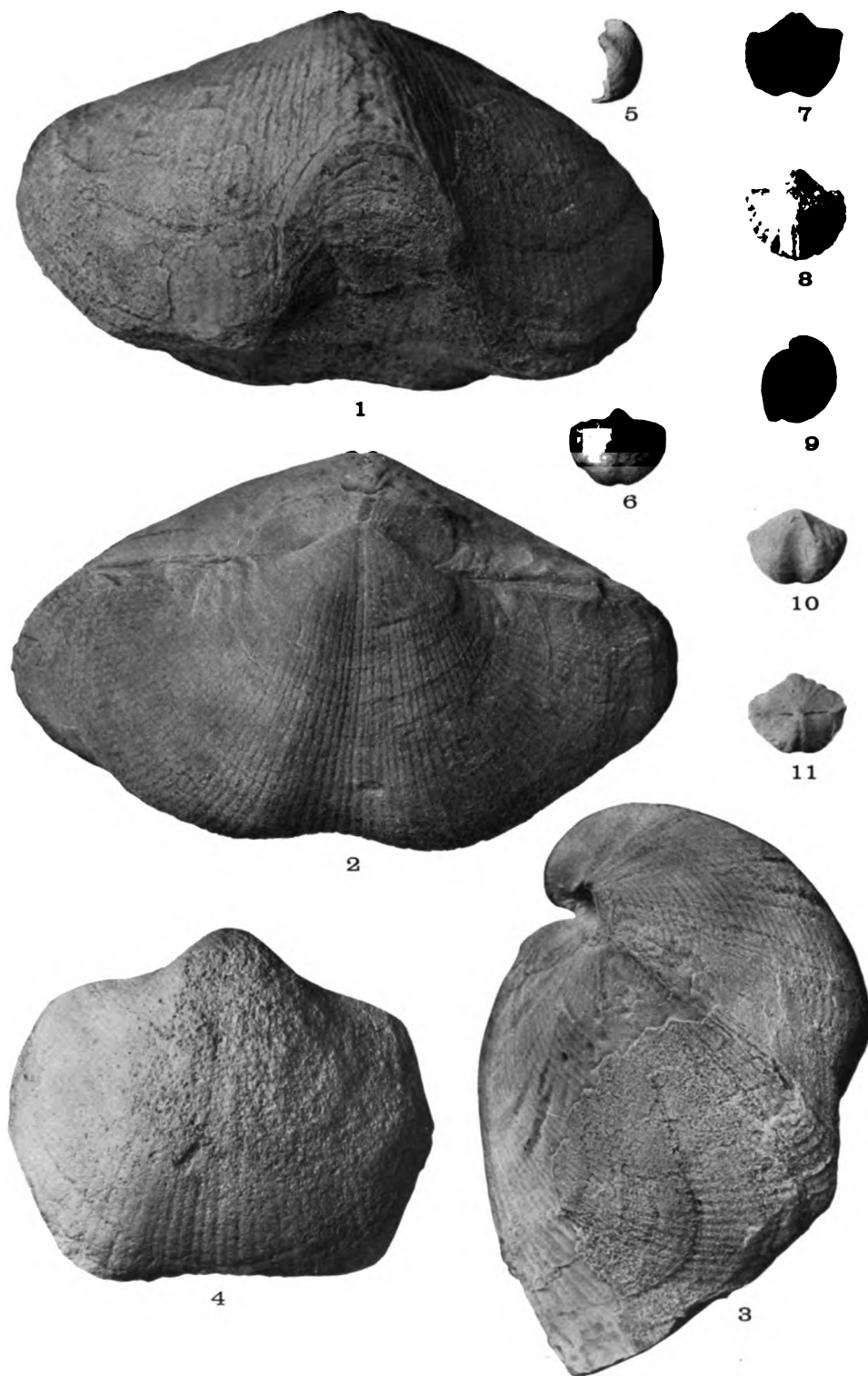
1-3. Anterior, posterior and lateral views of the specimen illustrated on Plate LI, Figs. 1 and 2. (W. M., No. 12942.) 4. View of a pedicle valve in the usual condition of preservation. (W. M., No. 331.)

*Burlington limestone, Springfield, Missouri.*

Figs. 5-11. *BRACHYTHYRIS FERNGLENENSIS* Weller.....p. 372

5. Lateral view of a pedicle valve. 6. View of another pedicle valve. Cotypes. (W. M., No. 13538.) 7-11. Pedicle, brachial, lateral, anterior and posterior views of a nearly perfect specimen. (D. K. G., No. 3101.)

*Fern Glen formation, Fern Glen, Missouri.*



### EXPLANATION OF PLATE LIII.

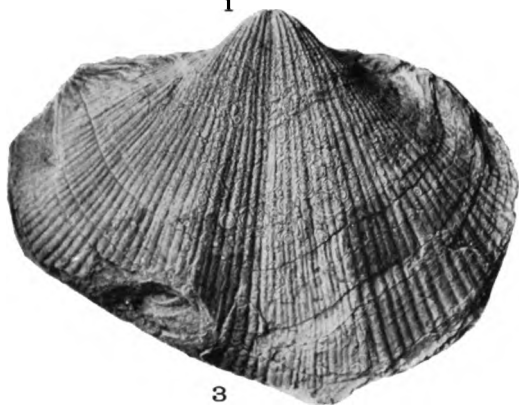
- Figs. 1-2. *SPIRIFER GRIMESI* Hall.....p. 361
1. Interior view of a pedicle valve. (W. M., No. 10762.)
  2. View of an incomplete pedicle valve with the plications not worn, showing bifurcation. (W. M., No. 14786.)  
*Burlington limestone, near Springfield, Missouri.*
- Figs. 3-6. *SPIRIFER ROWLEYI* n. sp.....p. 360
- 3-4. Pedicle and brachial views of a nearly complete specimen.
  5. Lateral view of another example. (W. M., No. 14783.)  
*Lake Valley Beds, Lake Valley, New Mexico.*
  6. View of a worn pedicle valve. (W. M., No. 13919.)  
*Fern Glen formation, Fern Glen, Missouri.*
- Fig. 7. *SPIRIFER* sp.  
Pedicle view of a nearly complete specimen. (W. M., No. 5653.)  
*Keokuk limestone, near Springfield, Missouri.*
- Figs. 8-9. *BRACHYTHYRIS BURLINGTONENSIS* n. sp.....p. 371
8. View of a plaster cast from a natural mould, partially restored.
  9. View of the natural internal cast of the same specimen.  
Cotypes. (W. M., No. 13543.)  
*Kinderhook, Bed No. 5, Burlington, Iowa.*



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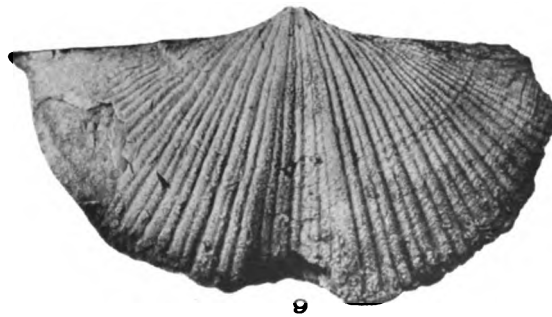
# EXPLANATION OF PLATE LIV.

- Figs. 1-4. *SPIRIFER ROWLEYI* n. sp.....p. 360  
 Pedicle, brachial, posterior and lateral views of the holotype.  
 (W. M., No. 13537.)  
*Fern Glen formation, Fern Glen, Missouri.*
- Figs. 5-10. *SPIRIFER CALVINI* n. sp.....p. 368  
 5. View of a pedicle valve. Cotype. (W. M., No. 13542.)  
*Kinderhook, Tama County, Iowa.*  
 6-9. Pedicle, anterior, posterior and lateral views of a nearly  
 perfect specimen. 10. View of a brachial valve. Cotypes.  
 (W. M., No. 13540.)  
*Kinderhook, Le Grand, Iowa.*



# EXPLANATION OF PLATE LV.

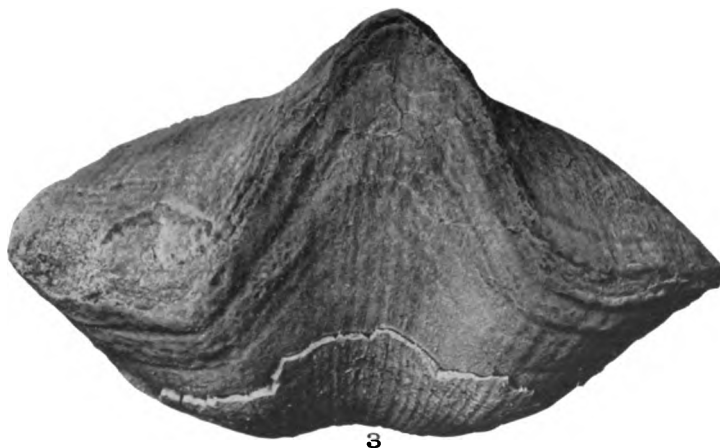
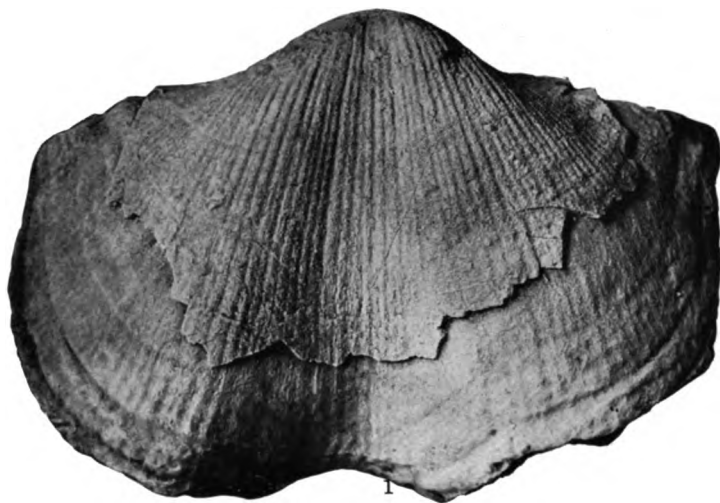
- Figs. 1-8. *SPIRIFER GREGERI* n. sp. ....p. 359
- 1-2. Views of two pedicle valves with the shell partially removed.
  - 3. Posterior view of another specimen. Cotypes. (W. M., No. 13552.)  
*Summit of Chouteau limestone, Sedalia, Missouri.*
  - 4. View of a pedicle valve retaining the shell. Cotype. (W. M., No. 13578.)  
*Upper Chouteau, Head of Middle River, Callaway Co., Missouri.*
  - 5-8. Pedicle, brachial, lateral and anterior views of a nearly complete small specimen. (D. K. G., No. 3401.)  
*Chouteau limestone, Newark, Knox County, Missouri.*
- Fig. 9. *SPIRIFER MONTGOMERYENSIS* n. sp. ....p. 367
- View of a pedicle valve, the holotype. (W. M., No. 13330.)  
*Keokuk, Crawfordsville, Indiana.*





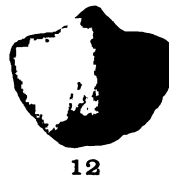
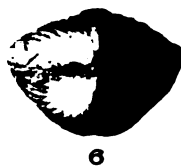
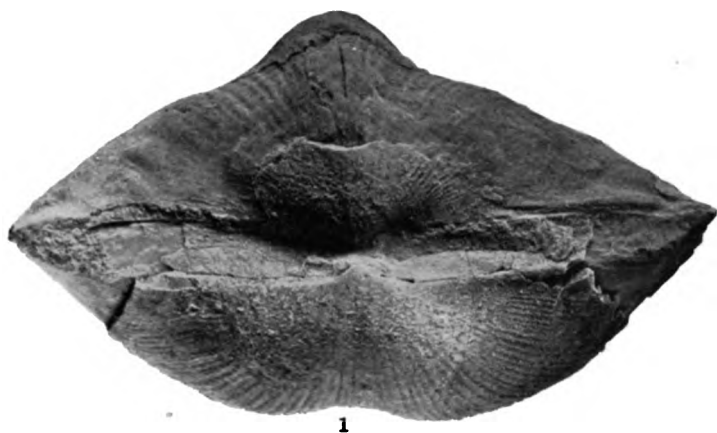
EXPLANATION OF PLATE LVI.

- Figs. 1-3. *SPIRIFER LOGANI* Hall.....p. 363  
Pedicle, brachial and anterior views of a nearly complete specimen. (W. M., No. 6579.)  
*Kcokuk limestone, Kcokuk, Iowa.*



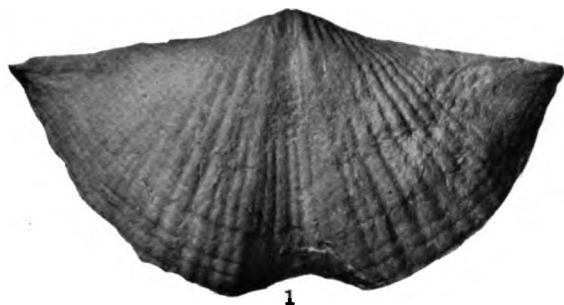
# EXPLANATION OF PLATE LVII.

- Figs. 1-3. *SPIRIFER LOGANI* Hall.....p. 363  
 1-2. Posterior and lateral views of the specimen illustrated on Plate LVI. 3. View of the interior of the pedicle valve of the same specimen. (W. M., No. 6579.)  
*Keokuk limestone, Keokuk, Iowa.*
- Figs. 4-11. *BRACHYTHYRIS CHOUTEAUENSIS* Weller.....p. 373  
 4-7. Pedicle, brachial, posterior and lateral views of a nearly complete specimen. (W. M., No. 8544.)  
*Pierson limestone, near Springfield, Missouri.*  
 8-10. Lateral, pedicle and brachial views of a nearly complete specimen. Holotype. (W. M., No. 9664.)  
*Chouteau limestone, Chouteau Springs, Missouri.*  
 11. Brachial view of a somewhat crushed specimen. (W. M., No. 13536.)  
*Fern Glen formation, Fern Glen, Missouri.*
- Fig. 12. *BRACHYTHYRIS PECULIARIS* (Shumard).....p. 381  
 View of a broad pedicle valve. (W. M., No. 9722.)  
*Chouteau limestone, Pettis County, Missouri.*



# EXPLANATION OF PLATE LVIII.

- Figs. 1-3. *SPIRIFER MORTONANUS* Miller.....p. 366  
 1-2. Views of two pedicle valves. (W. M., No. 13328.) 3. Posterior view of a nearly complete specimen. (W. M., No. 13521.)  
*Crawfordsville Beds, Crawfordsville, Indiana.*
- Figs. 4-8. *BRACHYTHYRIS GURLEYI* n. sp.....p. 377  
 Pedicle, brachial, anterior, posterior and lateral views of the holotype. (W. M., No. 7550.)  
*Salem limestone, Indiana.*
- Figs. 9-20. *BRACHYTHYRIS PECULIARIS* (Shumard).....p. 381  
 9-12. Pedicle, brachial, anterior and lateral views of a very perfect specimen. 13-16. Pedicle, brachial, posterior and lateral views of another specimen. (W. M., No. 9662.)  
*Chouteau limestone, Chouteau Springs, Missouri.*  
 17-20. Pedicle, brachial, anterior and posterior views of a very narrow specimen. (W. M., No. 7941.)  
*Chouteau limestone, Pettis County, Missouri.*



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# EXPLANATION OF PLATE LIX.

- Figs. 1-6. *SPRIFER MORTONANUS* Miller.....p. 366  
 1-3. Pedicle, brachial and lateral views of a nearly perfect specimen. (W. M., No. 13328.) 4-6. Pedicle, posterior and anterior views of a nearly complete specimen. (W. M., No. 13321.)  
*Crawfordsville beds, Crawfordsville, Indiana.*
- Figs. 7-14. *BRACHYTHYRIS ALTONENSIS* n. sp.....p. 379  
 7-10. Pedicle, brachial, anterior and posterior views of a very perfect internal cast. 11-14. Pedicle, brachial, lateral and anterior views of another specimen. Cotypes. (W. M., No. 10925.)  
*St. Louis limestone, 1 mile above Alton, Illinois.*
- Figs. 15-19. *BRACHYTHYRIS SEMIPLICATA* (Hall).....p. 380  
 Pedicle, brachial, anterior, lateral and posterior views of a nearly perfect specimen. (W. M., No. 14776.)  
*Kinderhook, 3½ miles N. W. of Jonesboro, Illinois.*



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EXPLANATION OF PLATE LX.

- Figs. 1-15. *BRACHYTHYRIS SUBCARDIIFORMIS* Hall.....p. 376
- 1-3. Pedicle, lateral and brachial views of a sulphur cast of the holotype. (W. M., No. 14213.)  
*Salem limestone, above Alton, Illinois.*
- 4-6. Pedicle, lateral and brachial views of a large specimen. (W. M., No. 8617.)  
*Edwardsville, Indiana.*
- 7-11. Pedicle, brachial, posterior, lateral and anterior views of a nearly perfect specimen. (W. M., No. 6352.) 12. Posterior view of a pedicle valve showing the raised margins of the true cardinal area. (W. M.) 13-14. Posterior and pedicle views of a large pedicle valve. 15. Anterior view of another specimen. (W. M., No. 7520.)  
*Salem limestone, Spergen Hill, Indiana.*



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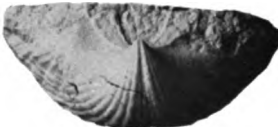
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### EXPLANATION OF PLATE LXI.

Figs. 1-8. *BRACHYTHYRIS SUBORBICULARIS* Hall.....p. 374

1-2. Pedicle and brachial views of a sulphur cast of the holotype.  
(W. M., No. 14217.)

*Keokuk limestone, Keokuk, Iowa.*

3. View of a large pedicle valve. (W. M., No. 13409.) 4. Pedicle view of another specimen. (W. M., No. 8627.)

*Keokuk limestone, Keokuk, Iowa.*

5. View of a brachial valve. (W. M., No. 385.) 6. View of another pedicle valve. (W. M., No. 5655.)

*Burlington limestone, Springfield, Missouri.*

7. View of an incomplete brachial valve. 8. View of an incomplete pedicle valve. (W. M., No. 13324.)

*Crawfordsville beds, Crawfordsville, Indiana.*



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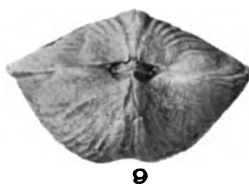
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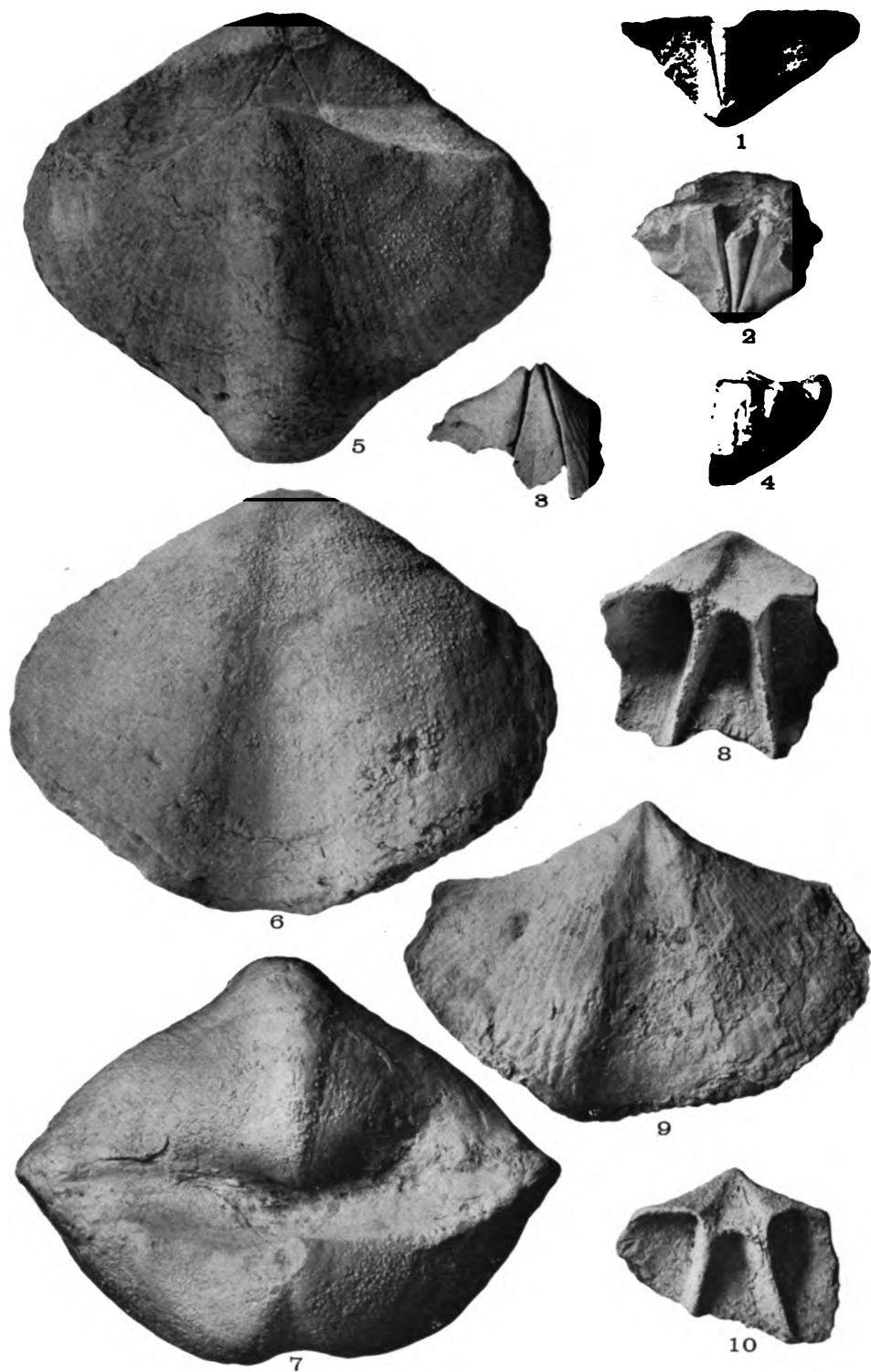
EXPLANATION OF PLATE LXII.

- Figs. 1-12. BRACHYTHYRIS SUBORBICULARIS (Hall).....p. 374
- 1-5. Pedicle, brachial, posterior, anterior and lateral views of a nearly complete example. (W. M., No. 4721.)  
*Burlington limestone, near Sulphur Springs, Missouri.*
- 6-10. Pedicle, brachial, lateral, posterior and anterior views of a nearly perfect internal cast. (W. M., No. 5652.)  
*Residual chert, Springfield, Missouri.*
11. View of a pedicle valve. (W. M., No. 13324.)  
*Crawfordsville beds, Crawfordsville, Indiana.*
12. View of a small pedicle valve. (W. M., No. 13325.)  
*Crawfordsville beds, Offield Creek, near Crawfordsville, Indiana.*



# EXPLANATION OF PLATE LXIII.

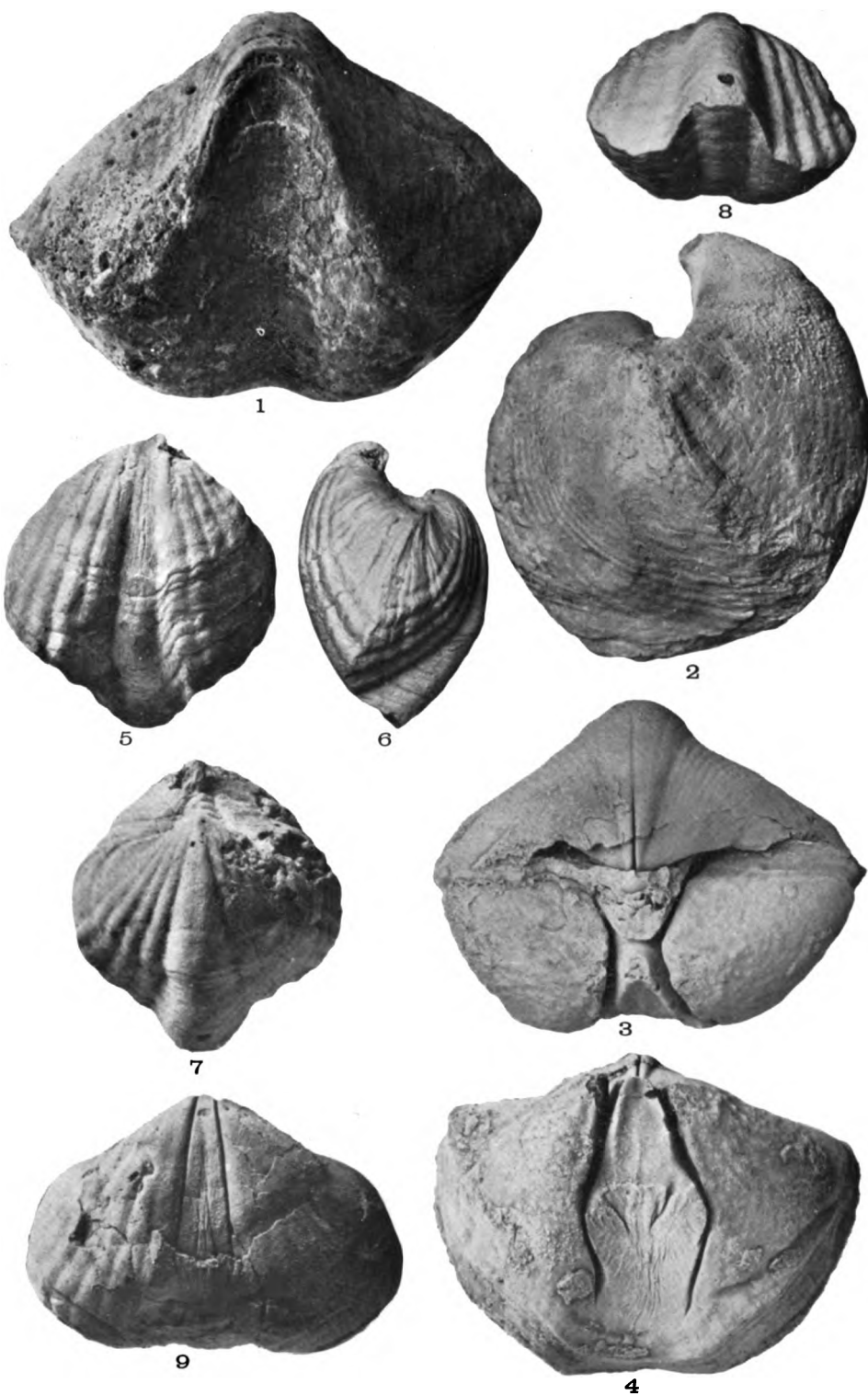
- Figs. 1-4. *CYRTIA INEXPECTANS* n. sp.....p. 383
1. Posterior view showing the cardinal area with covered delthyris. A wax impression from the natural mould of the holotype. 2-4. Posterior, pedicle and lateral views of an imperfect internal cast of a pedicle valve, the holotype. (W. M., No. 381.)  
*Residual chert, Springfield, Missouri.*
- Figs. 5-8. *SPIRIFERELLA PLENA* (Hall).....p. 412
- 5-7. Pedicle, brachial and posterior views of a nearly perfect specimen. (W. M., No. 7053.)  
*Burlington limestone, Quincy, Illinois.*
  8. View of the interior of a pedicle valve showing the strongly developed dental lamellae. (W. M., No. 7548.)  
*Burlington limestone, Burlington, Iowa.*
- Figs. 9-10. *SPIRIFERELLA LATIOR* n. sp.....p. 414
9. View of a nearly complete pedicle valve, the holotype. (W. M., No. 13566.)  
*Burlington limestone, Springfield, Missouri.*
  10. View of the interior of an incomplete pedicle valve. (W. M., No. 13570.)  
*Burlington limestone, Osceola, Missouri.*





# EXPLANATION OF PLATE LXIV.

- Figs. 1-4. *SPIRIFERELLA PLENA* (Hall).....p. 412
- 1-2. Anterior and lateral views of the nearly perfect specimen shown on Plate LXIII, Figs. 5-7. (W. M., No. 7053.)  
*Burlington limestone, Quincy, Illinois.*
- 3-4. Posterior and pedicle views of a nearly complete internal cast. (W. M., No. 13554.)  
*Residual chert, Sedalia, Missouri.*
- Figs. 5-9. *SPIRIFERELLA NEGLECTA* (Hall).....p. 415
- 5-8. Pedicle, lateral, brachial and anterior views of a small but nearly complete specimen. (W. M., No. 8616.)  
*Kcokuk limestone, Edwardsville, Indiana.*
9. View of a nearly perfect internal cast of a pedicle valve showing the elongate dental lamellae. (W. M., No. 5650.)  
*Residual chert, Springfield, Missouri.*



EXPLANATION OF PLATE LXV.

- Figs. 1-4. *SPIRIFERELLA NEGLECTA* (Hall).....p. 415  
1-3. Brachial, pedicle and anterior views of a sulphur cast of a nearly perfect specimen. (W. M., No. 14212.) 4. Posterior view of a nearly perfect specimen. (W. M., No. 13323.)  
*Keokuk limestone, Keokuk, Iowa.*
- Figs. 5-9. *PSEUDOSYRINX MISSOURIENSIS* n. sp.....p. 406  
Anterior, posterior, lateral, pedicle and brachial views of the holotype, a nearly complete specimen. (W. M., No. 13559.)  
*Burlington limestone, Osceola, Missouri.*



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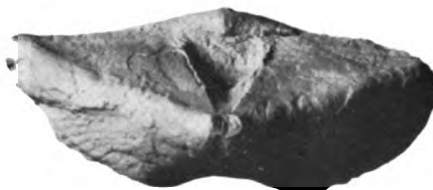
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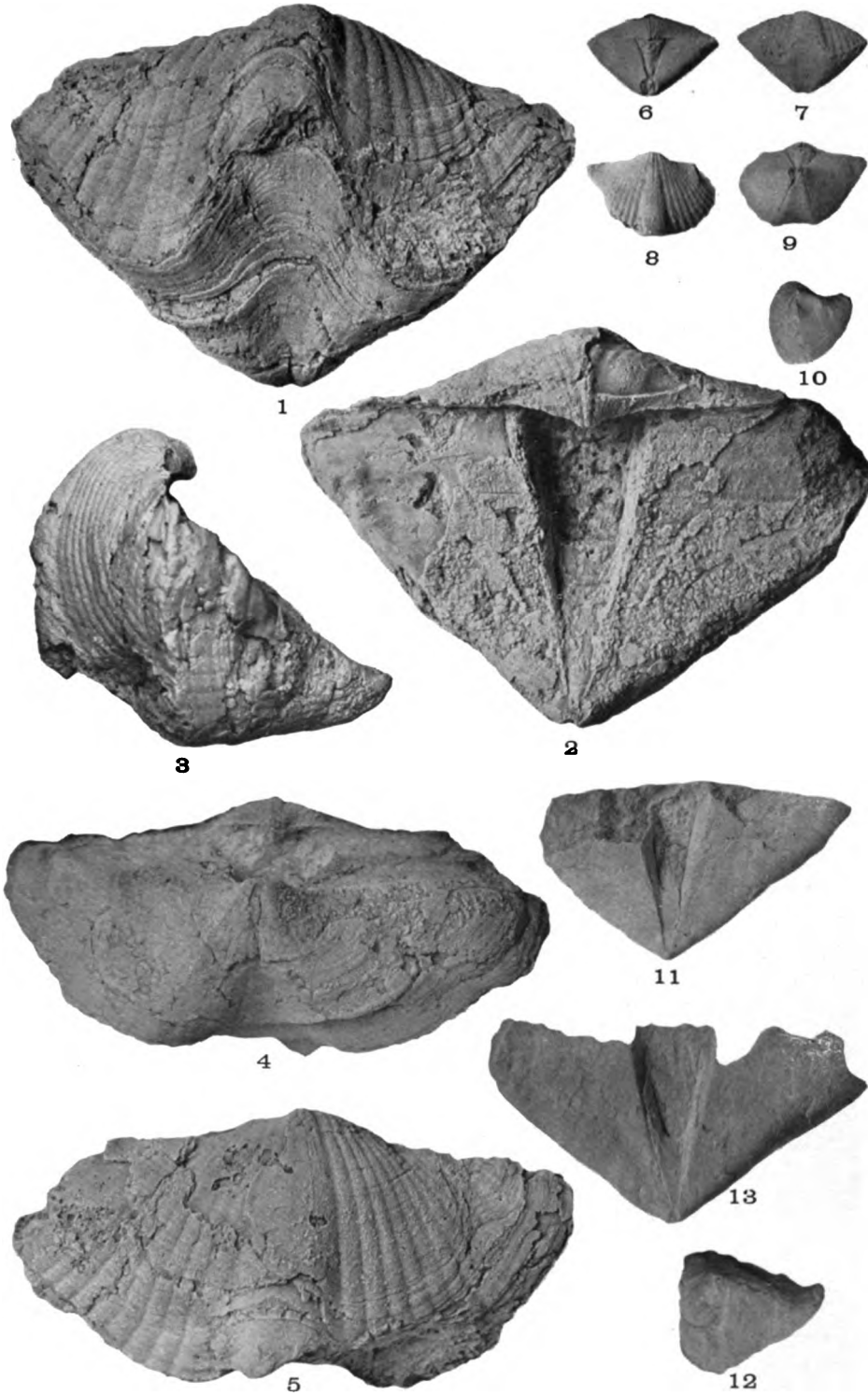
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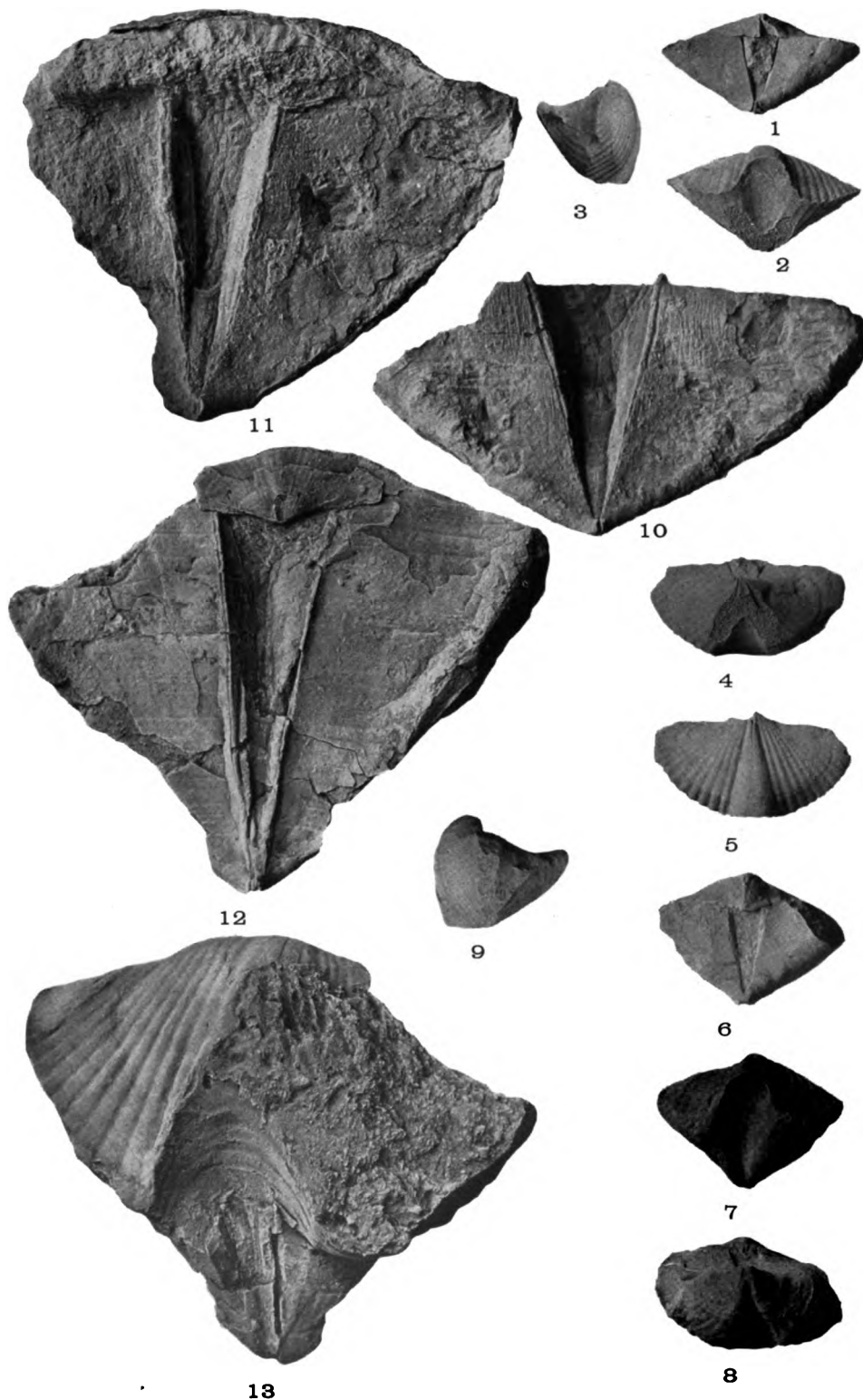
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- Figs. 1-5. PSEUDOSYRINX GIGAS n. sp.....p. 410  
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- Figs. 6-10. PSEUDOSYRINX KEOKUK n. sp.....p. 408  
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- Figs. 11-13. PSEUDOSYRINX MISSOURIENSIS n. sp.....p. 406  
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*Burlington white chert, Louisiana, Missouri.*  
 13. View of the cardinal area of an incomplete pedicle valve. (W. M., No. 13559.)  
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G., No. 3002.)  
*Chouteau limestone, Newark, Knox County, Missouri.*



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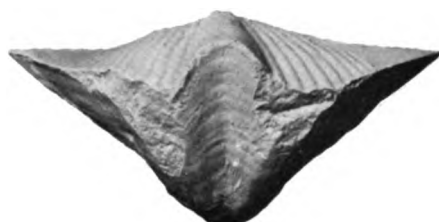
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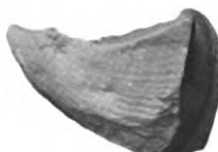
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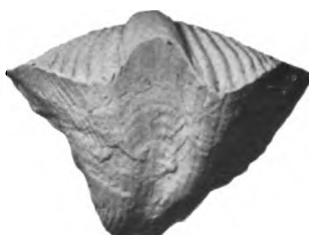
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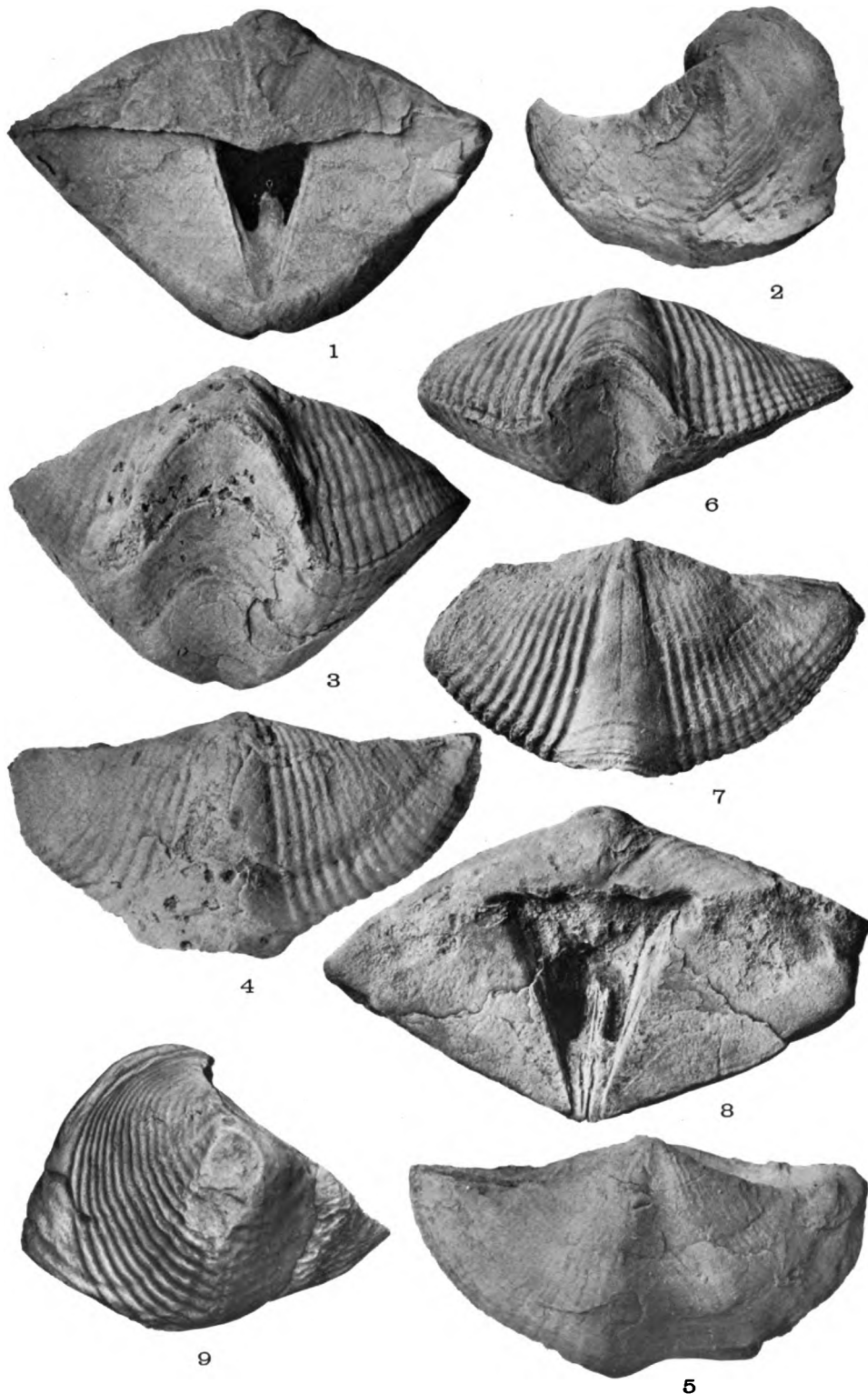
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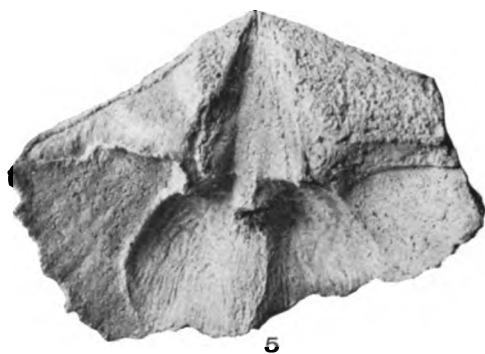
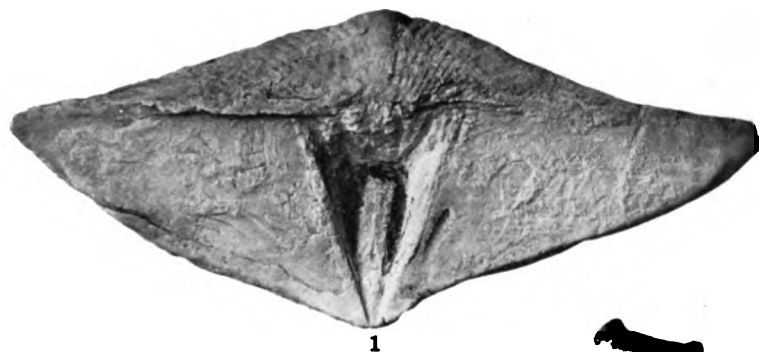
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9. Lateral view of another large specimen. (W. M., No.  
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*Knobstone formation, New Albany, Indiana.*



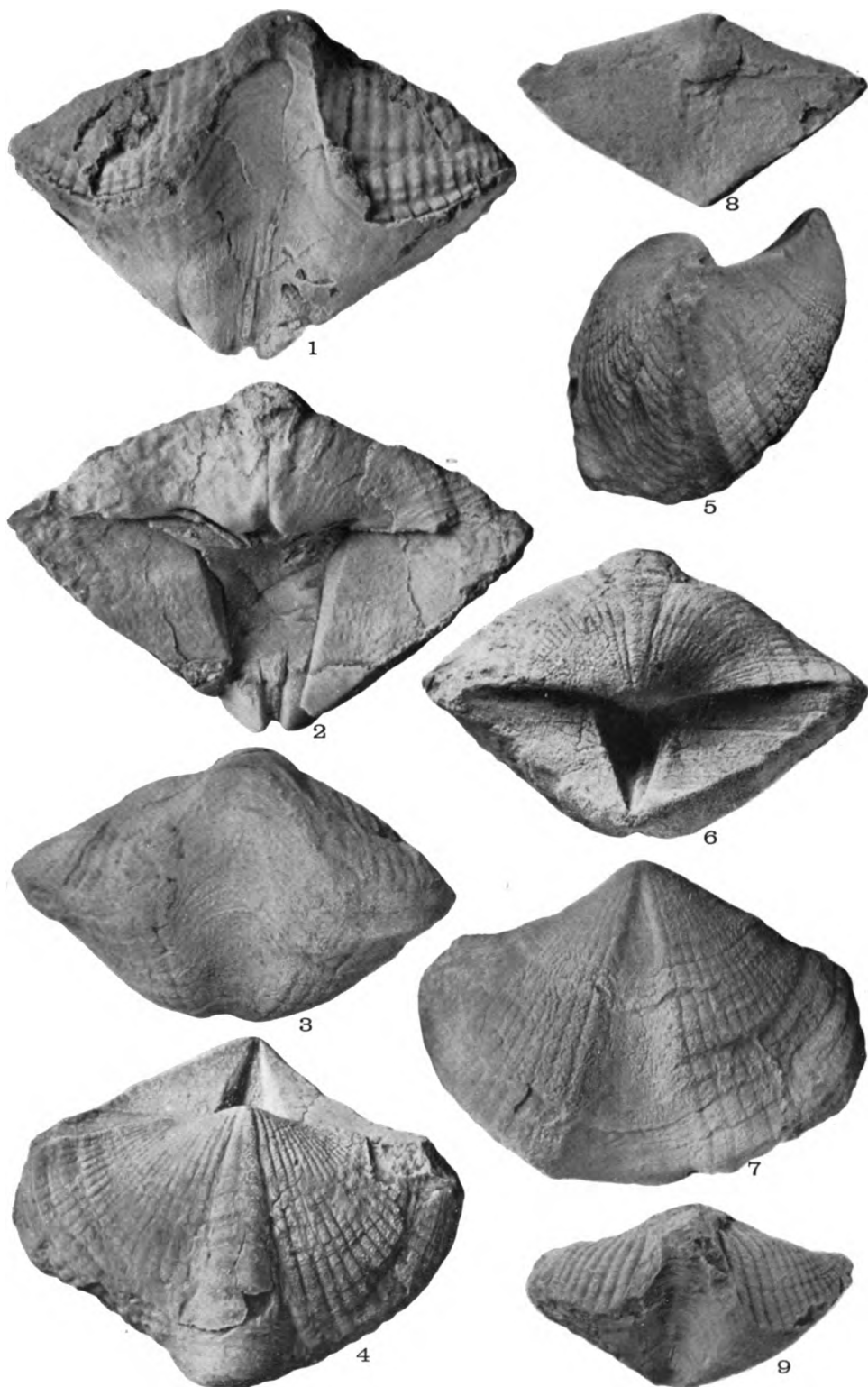
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- Figs. 1-4. SYRINGOTHYRIS TEXTUS (Hall).....p. 399  
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EXPLANATION OF PLATE LXXI.

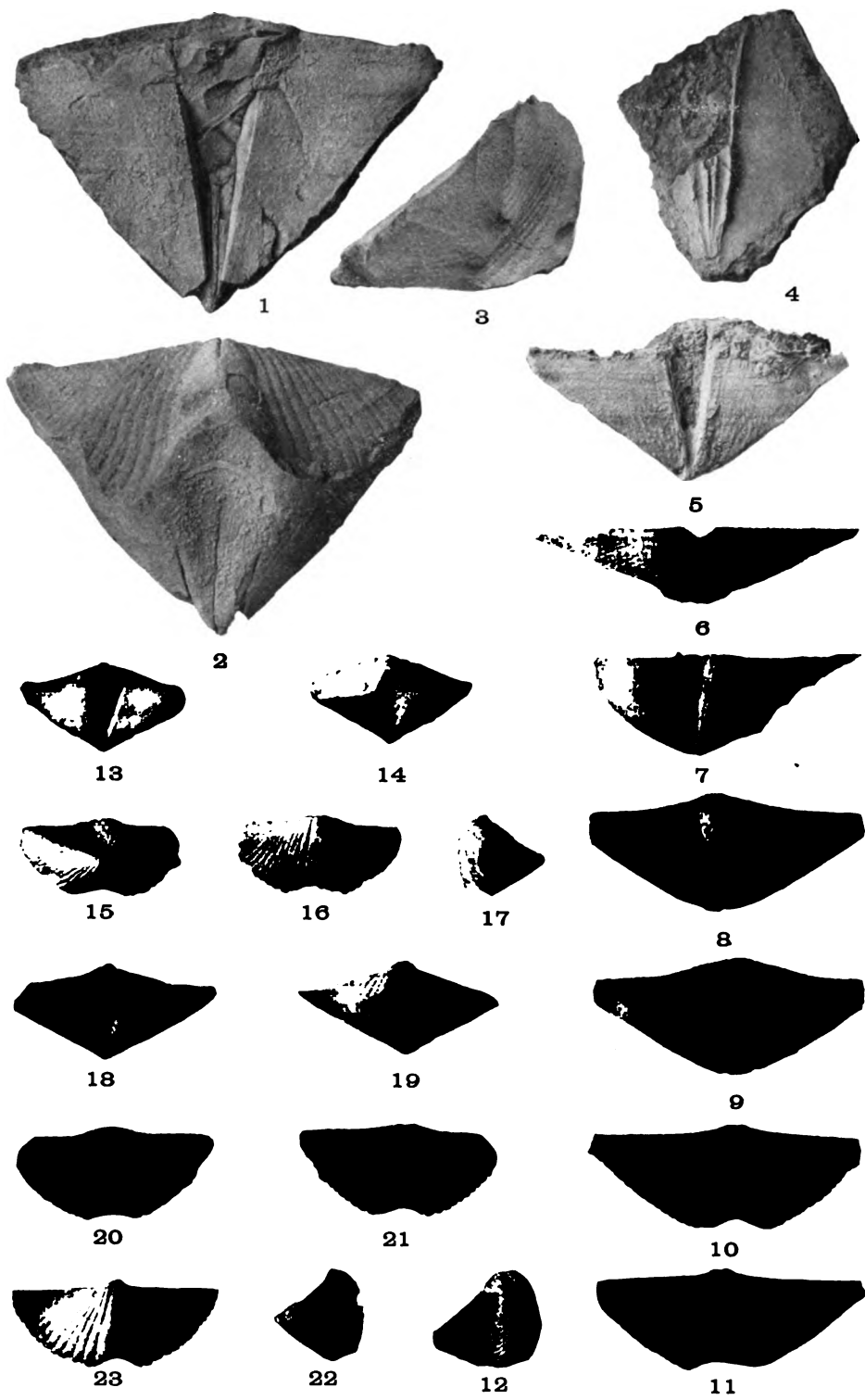
- Figs. 1-2. SYRINGOTHYRIS TEXTUS (Hall).....p. 399  
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(W. M., No. 7915.)  
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- Figs. 1-4. SYRINGOTHYRIS PLATYPLEURUS n. sp.....p. 397
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Anterior, pedicle, posterior, brachial and lateral views of a very perfect specimen, introduced for comparison with our American species. (W. M., No. 12519.)

*Carboniferous limestone, Waulsort, Belgium.*

Figs. 6-7. SYRINGOTHYRIS (?) sp.

Posterior and lateral views of a nearly complete specimen. (W. M., No. 13961.)

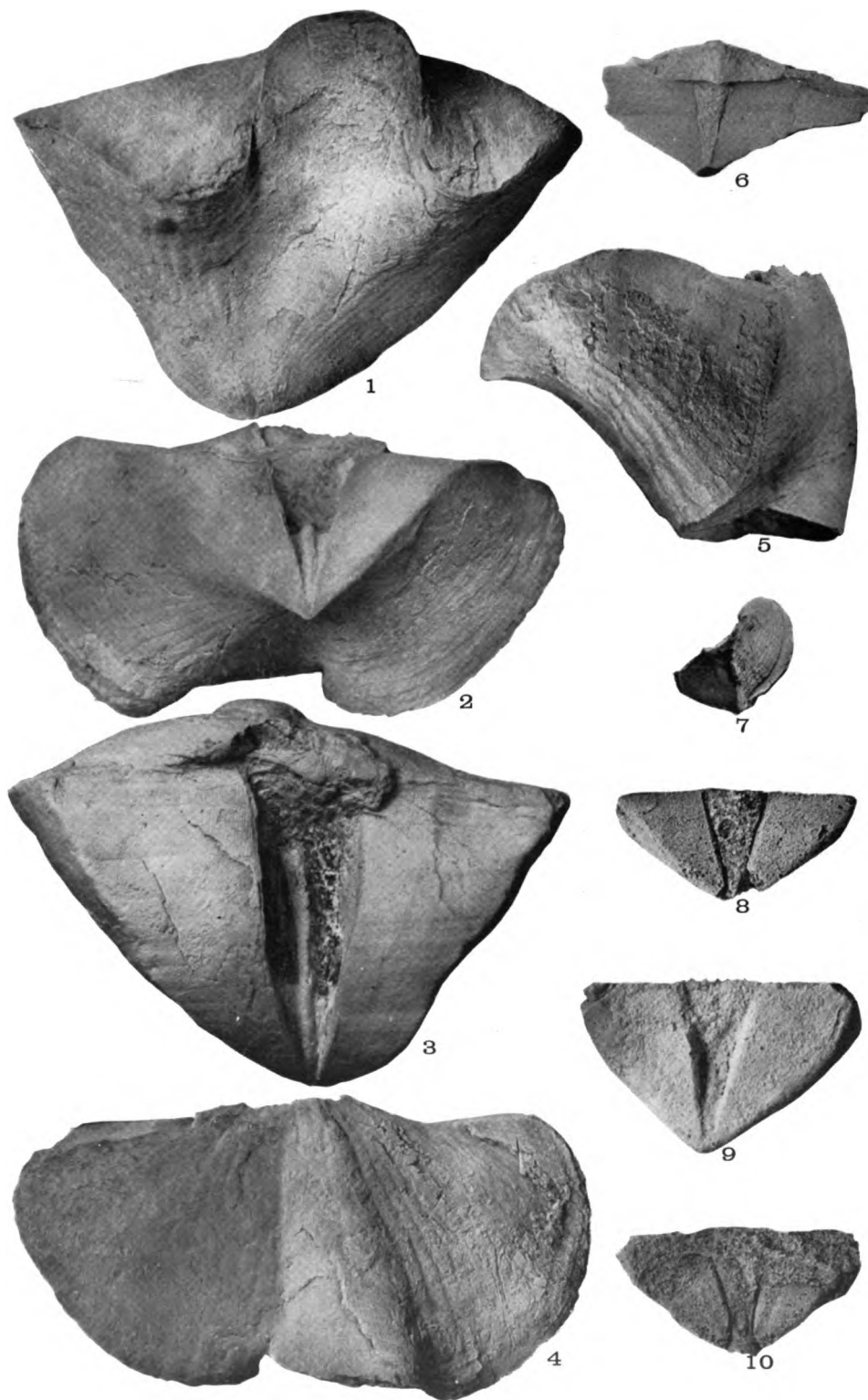
*Chouteau limestone, Providence, Missouri.*

Figs. 8-10. SYRINGOTHYRIS BUSHEBERGENSIS n. sp. .... p. 391

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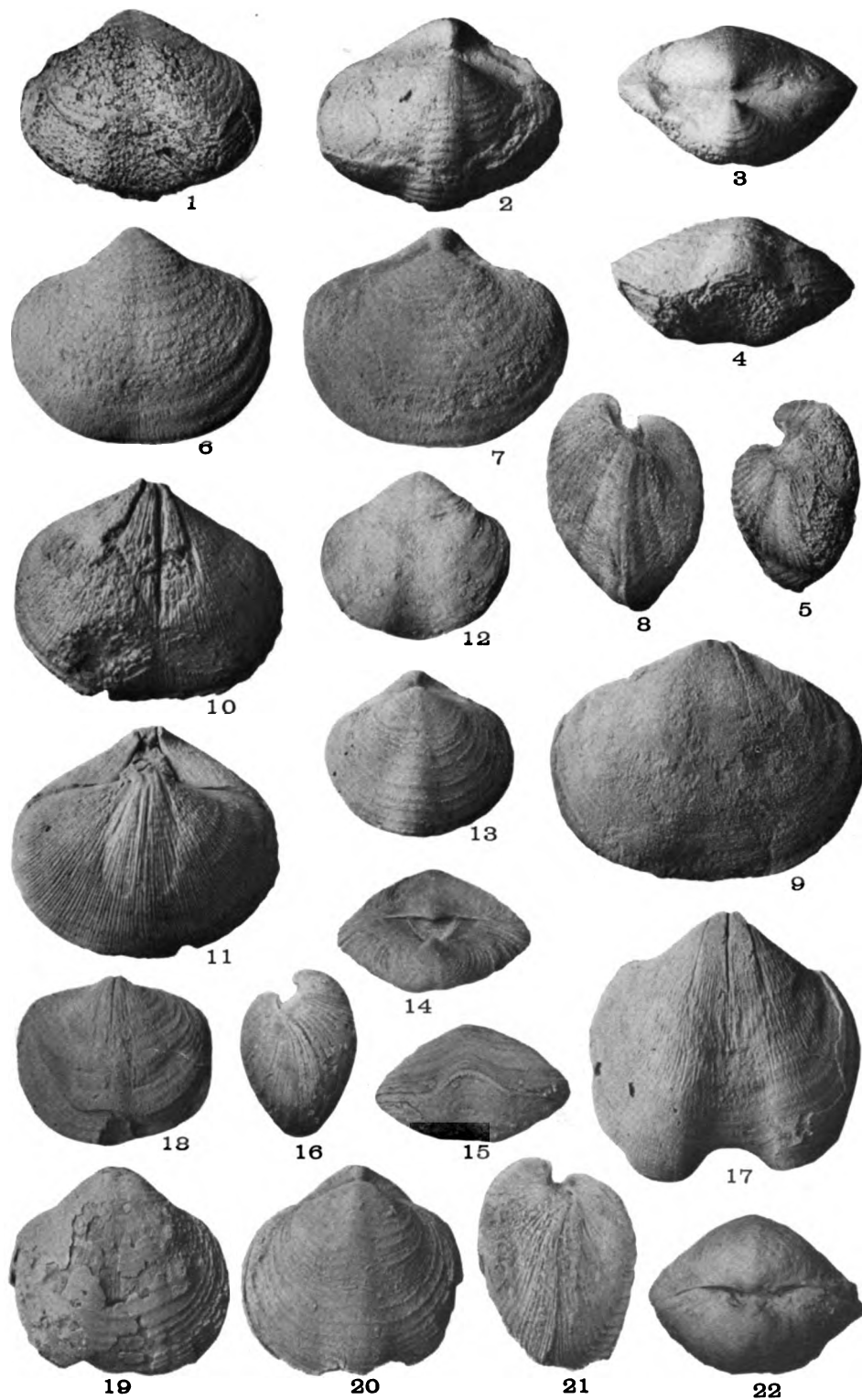
9. Plaster cast from a natural mould showing the cardinal area of a pedicle valve. 10. Internal cast of an incomplete pedicle valve showing an impression of the syrx. (W. M., No. 13970.)

*Bushberg sandstone, near Sulphur Springs, Missouri.*



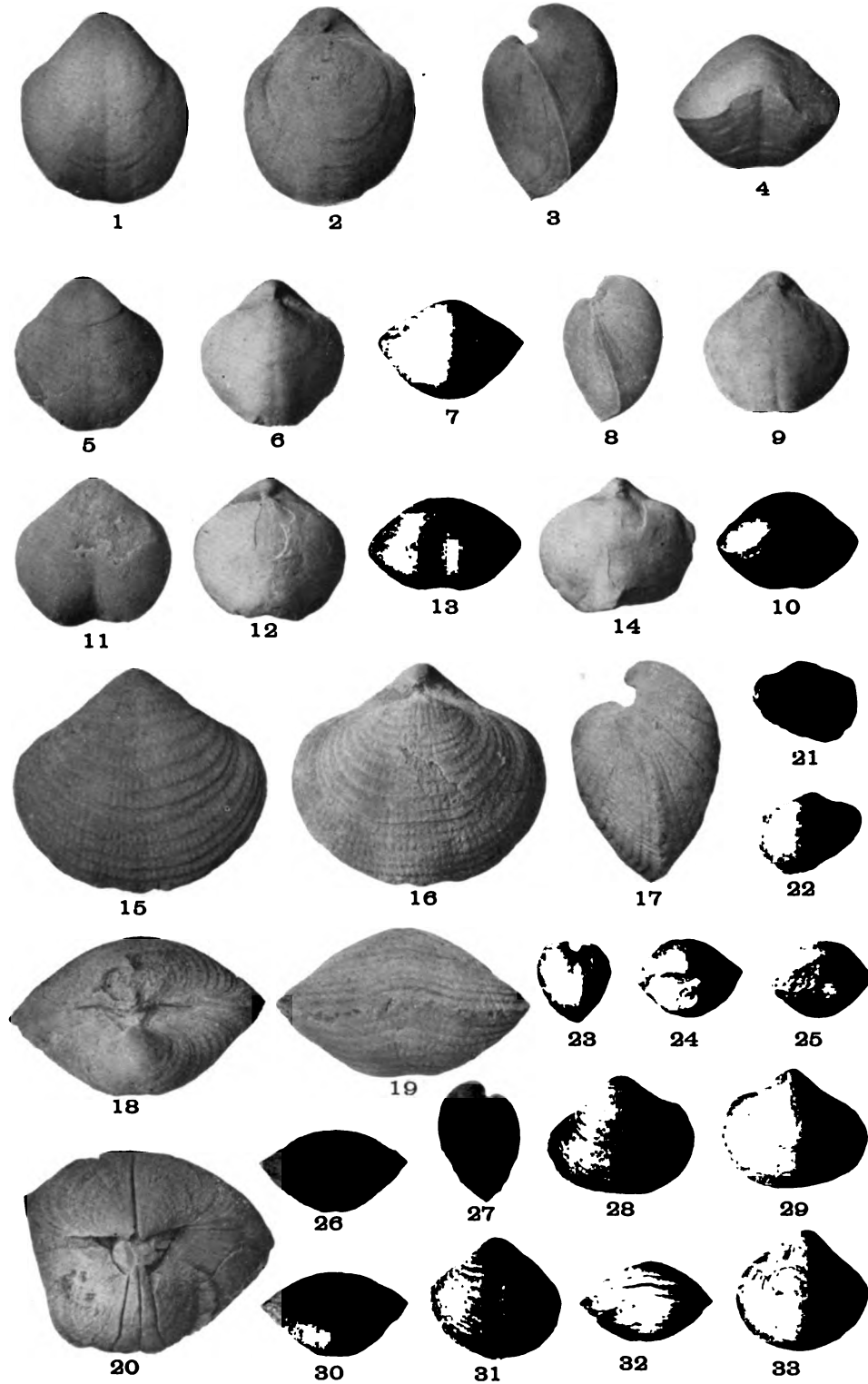
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- Figs. 1-11. *RETICULARIA PSEUDOLINEATA* (Hall).....p. 429
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*Keokuk limestone, Keokuk, Iowa.*
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- 19-22. Pedicle, brachial, lateral and posterior views of a nearly complete specimen. (W. M., No. 7632.)  
*Chester Group, Monroe County, Illinois.*



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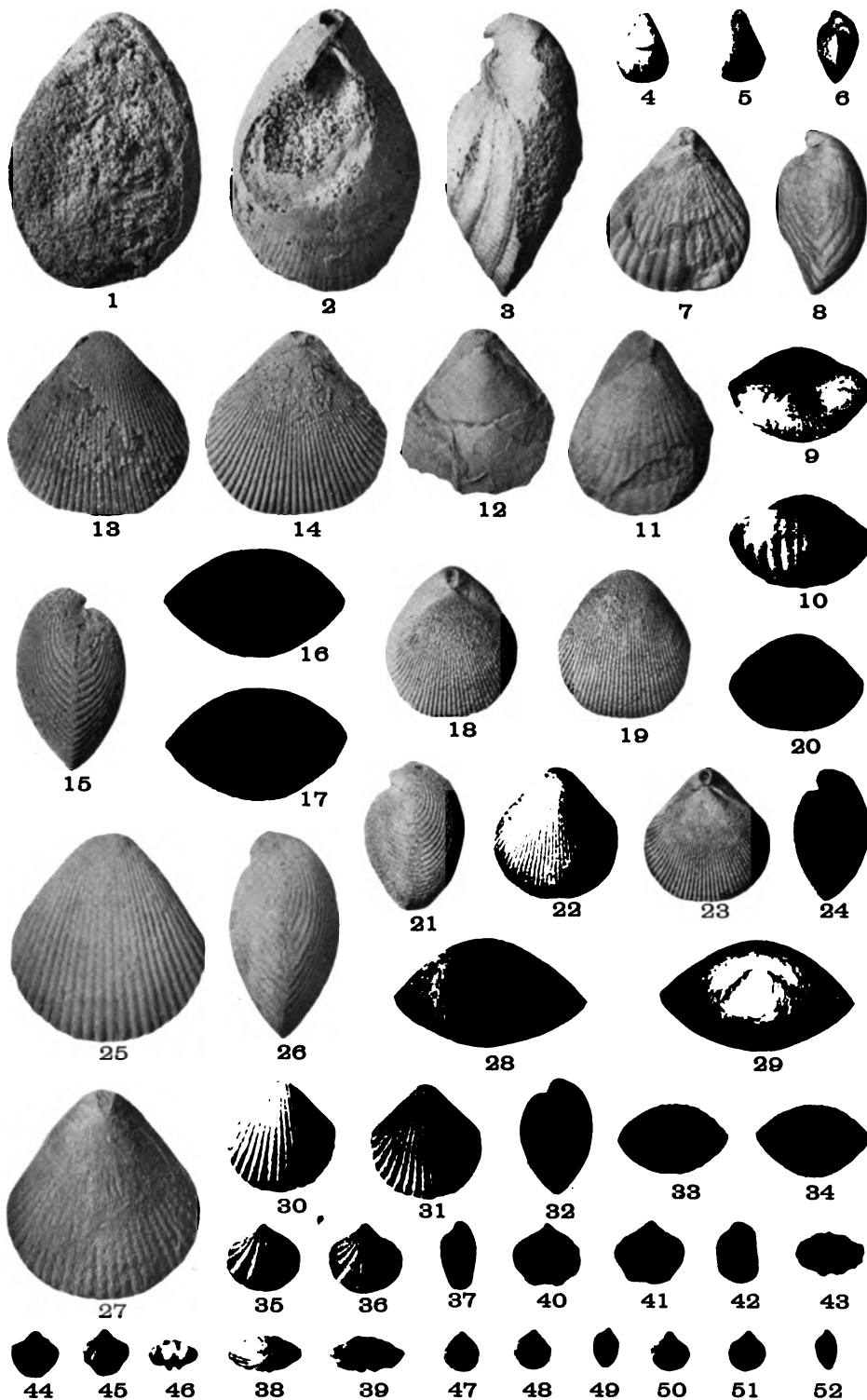
- Figs. 1-10. *MARTINIA CONTRACTA* (Meek and Worthen).....p. 420  
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- Figs. 1-3. *ACAMBONA PRIMA* White.....p. 449  
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- Figs. 13-17. *EUMETRIA VERA* (Hall).....p. 444  
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- 44-46. Pedicle, brachial and anterior views of a metatype of *Retzia raricosta* Rowley. (R. R. R.)  
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*Chouteau limestone, Sedalia, Missouri.*
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*Chouteau limestone, Pettis County, Missouri.*

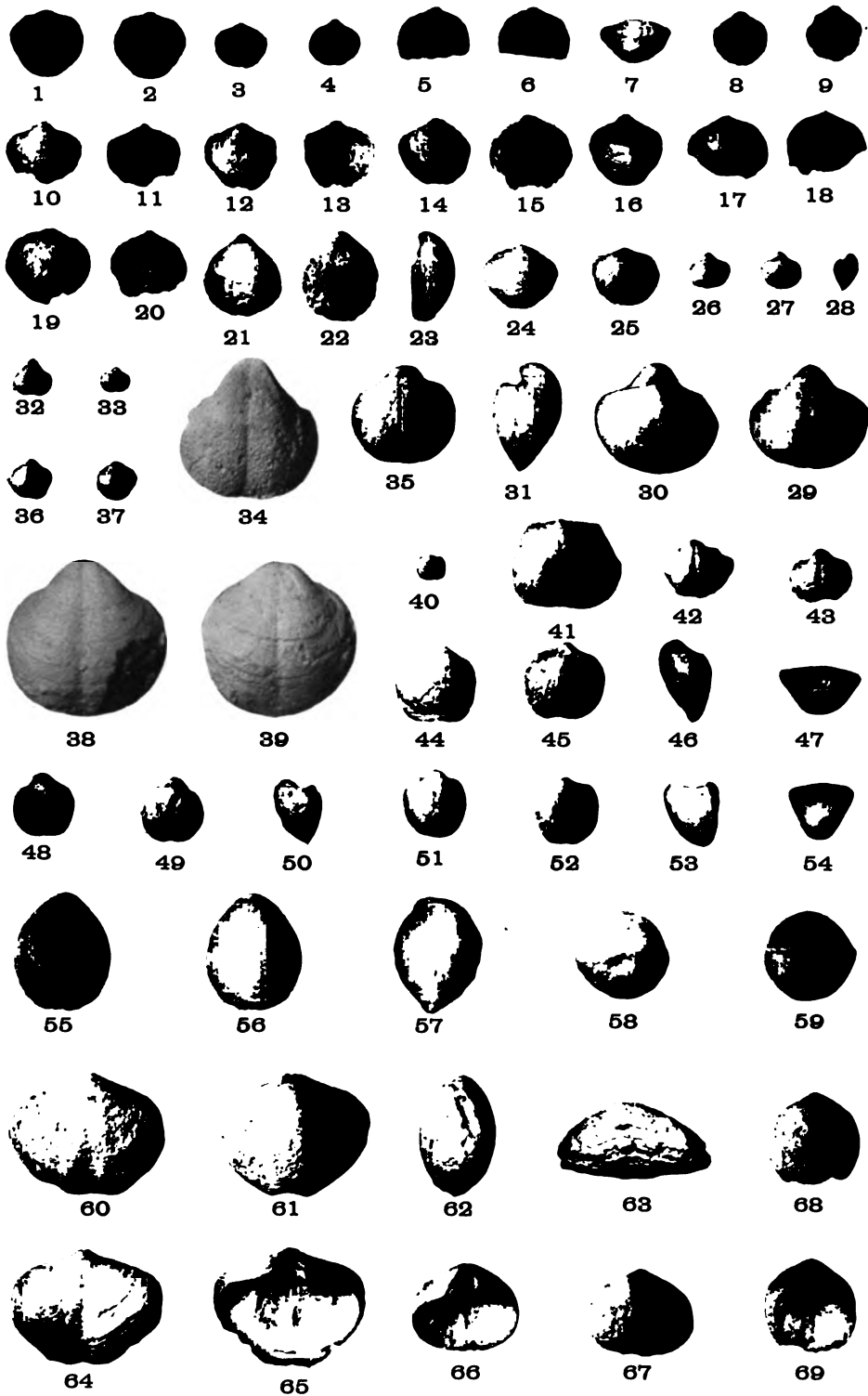




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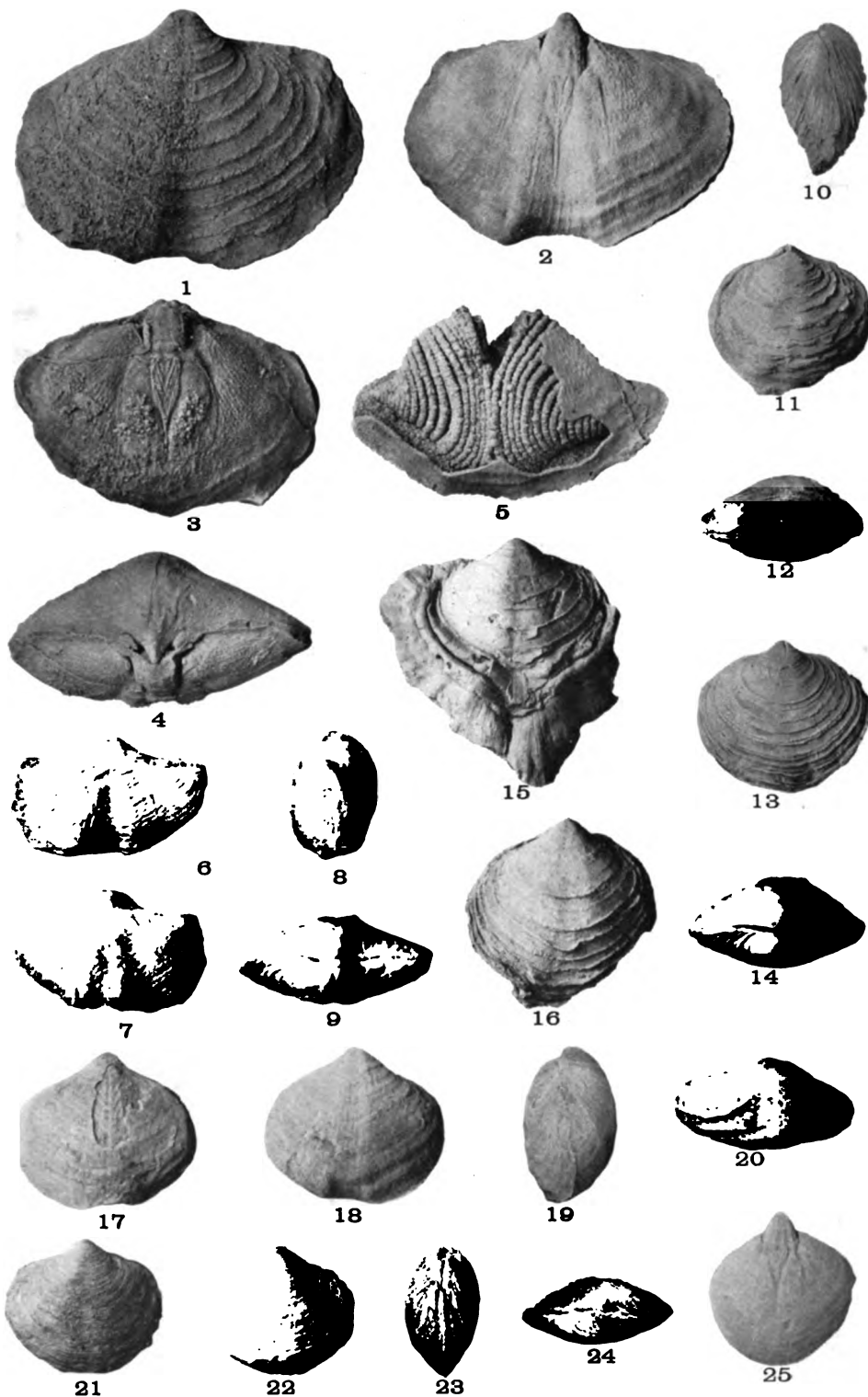
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- 5-6. Exterior and interior views of a brachial valve. 7. Posterior view of a shell with both valves in articulation. 8-9. Exterior and interior views of a small pedicle valve. 10-11, and 12-13. Exterior and interior views of two pedicle valves. 14-16. Exterior views of three pedicle valves. 17-18. Exterior and interior views of a brachial valve. 19. Exterior view of a brachial valve. 20. Interior view of a brachial valve. (W. M., No. 9817.)  
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- Figs. 60-69. *ATHYRIS DENSA* Hall and Clarke.....p. 469
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- 68-69. External and internal views of a pedicle valve, the holotype of *Centronella crassicardinalis* White. (A. M. N. H., No. 5067—1.)  
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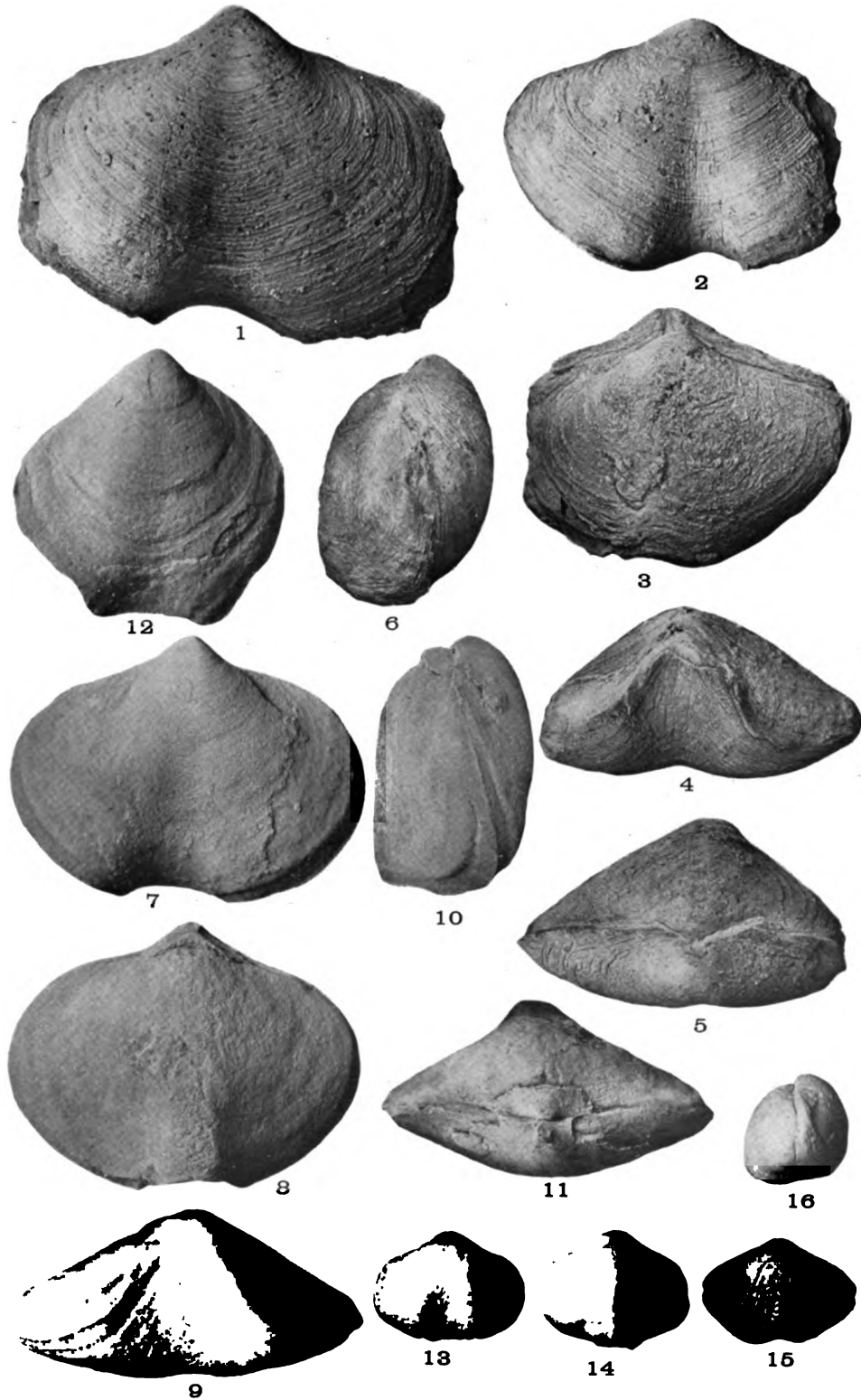
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*Keokuk limestone, Warsaw, Illinois.*  
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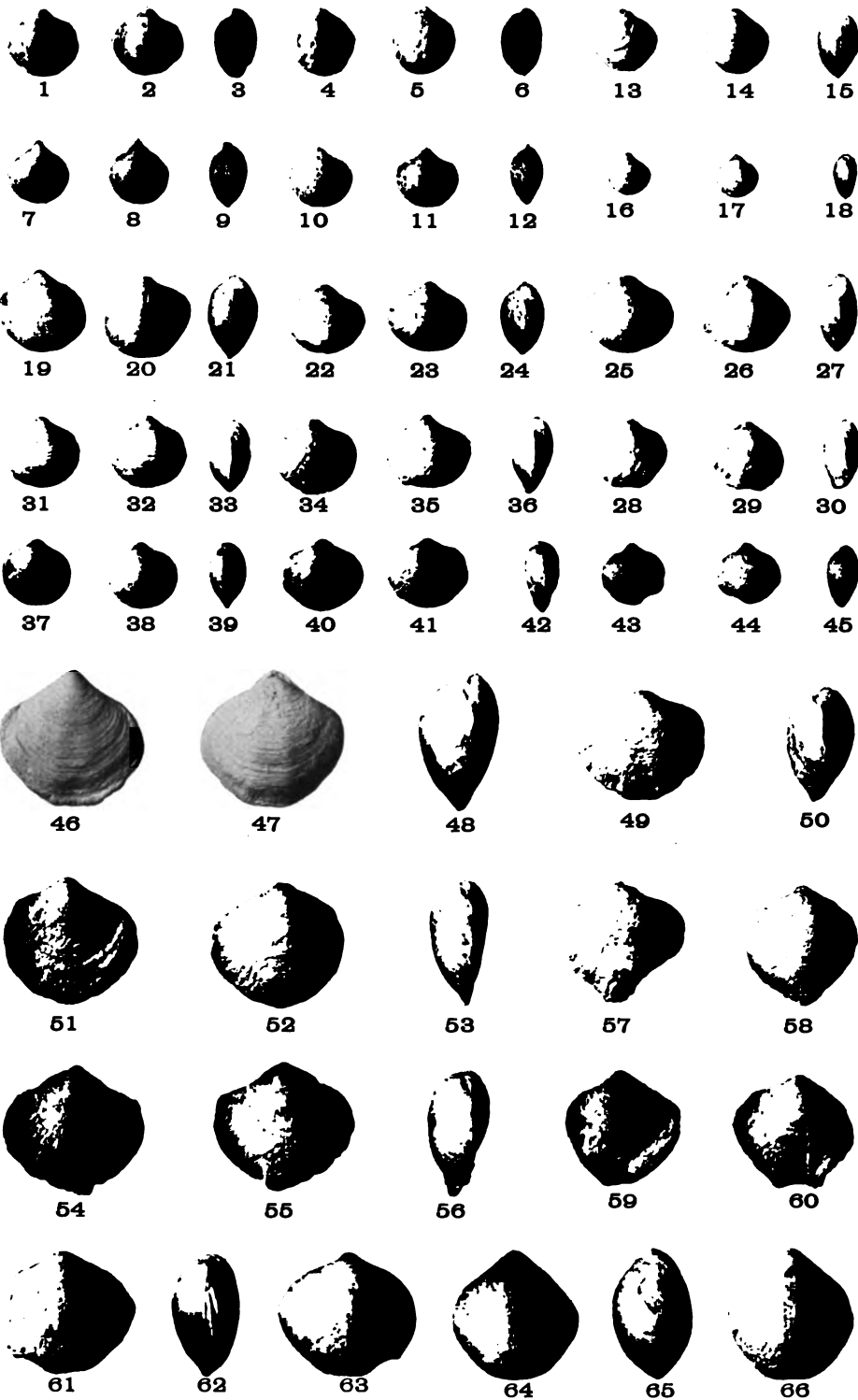
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- Figs. 13-16. CLIOTHYRIDINA PROUTI (Swallow).....p. 474  
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 specimen. (W. M., No. 46951.)  
*Fern Glen formation, near Kimmswick, Missouri.*



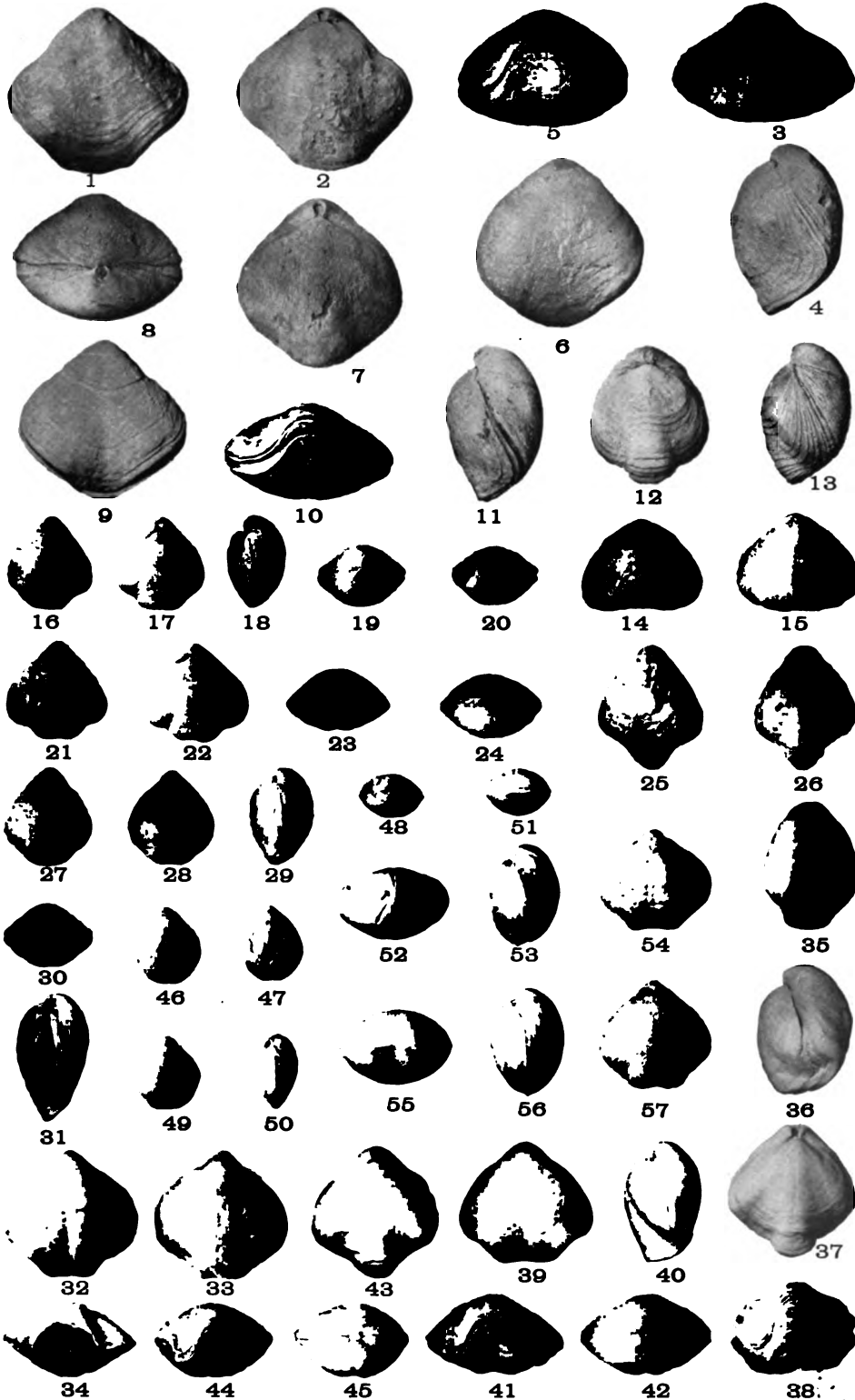
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*Keokuk limestone, Jersey County, Illinois.*  
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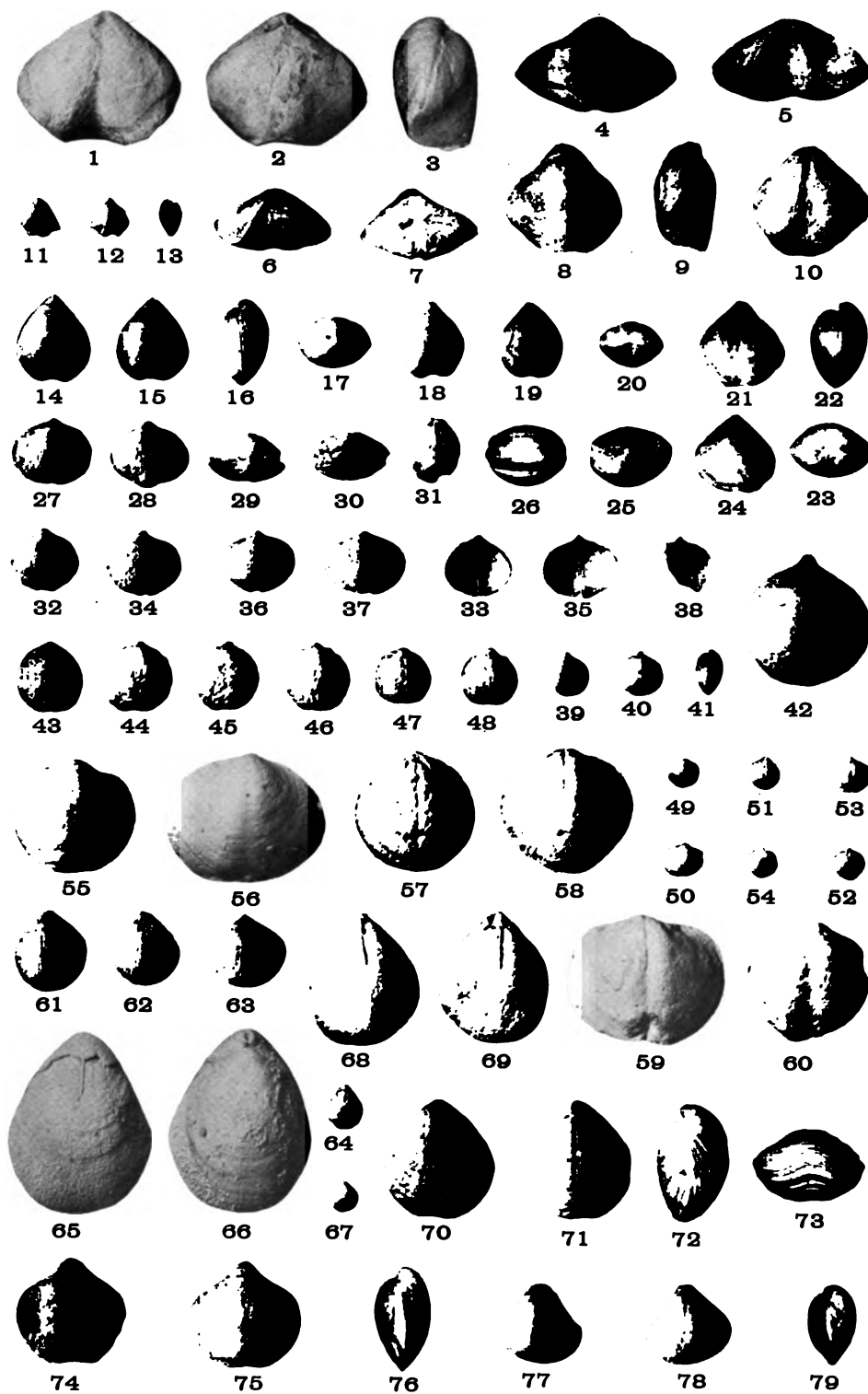
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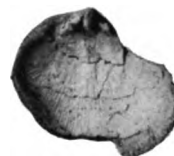
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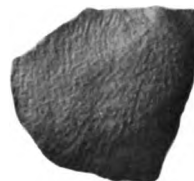
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